IBM SCENARIO ANALYSIS

INPUT

ABOUT INPUT

Formed in 1974, INPUT has rapidly grown to become a leading business consulting company in the information processing industry. It specializes in market research, planning services, and special analyses for users and vendors of computer, and communications, and office products and services.

The company carries out continuous and in-depth research with vendors and users in the industry. Our staff analyze and interpret the complex and voluminous data derived from this research, based on their experience and the needs of clients. This information is presented concisely and understandably through reports and presentations. Useful recommendations and access to back-up data are strong points of our client relations.

INPUT's professional staff have, on average, nearly 20 years experience in the information processing industry. Most have had senior management experience in operations, marketing, [illegible] des INPUT with unique strengths attested to b[illegible] many of the world's largest companies.

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"IBM SCENARIO ANALYSIS"

PREPARED FOR:

GENERAL ELECTRIC COMPANY

INFORMATION SERVICES BUSINESS DIVISION

DECEMBER 1977

"IBM SCENARIO ANALYSIS"

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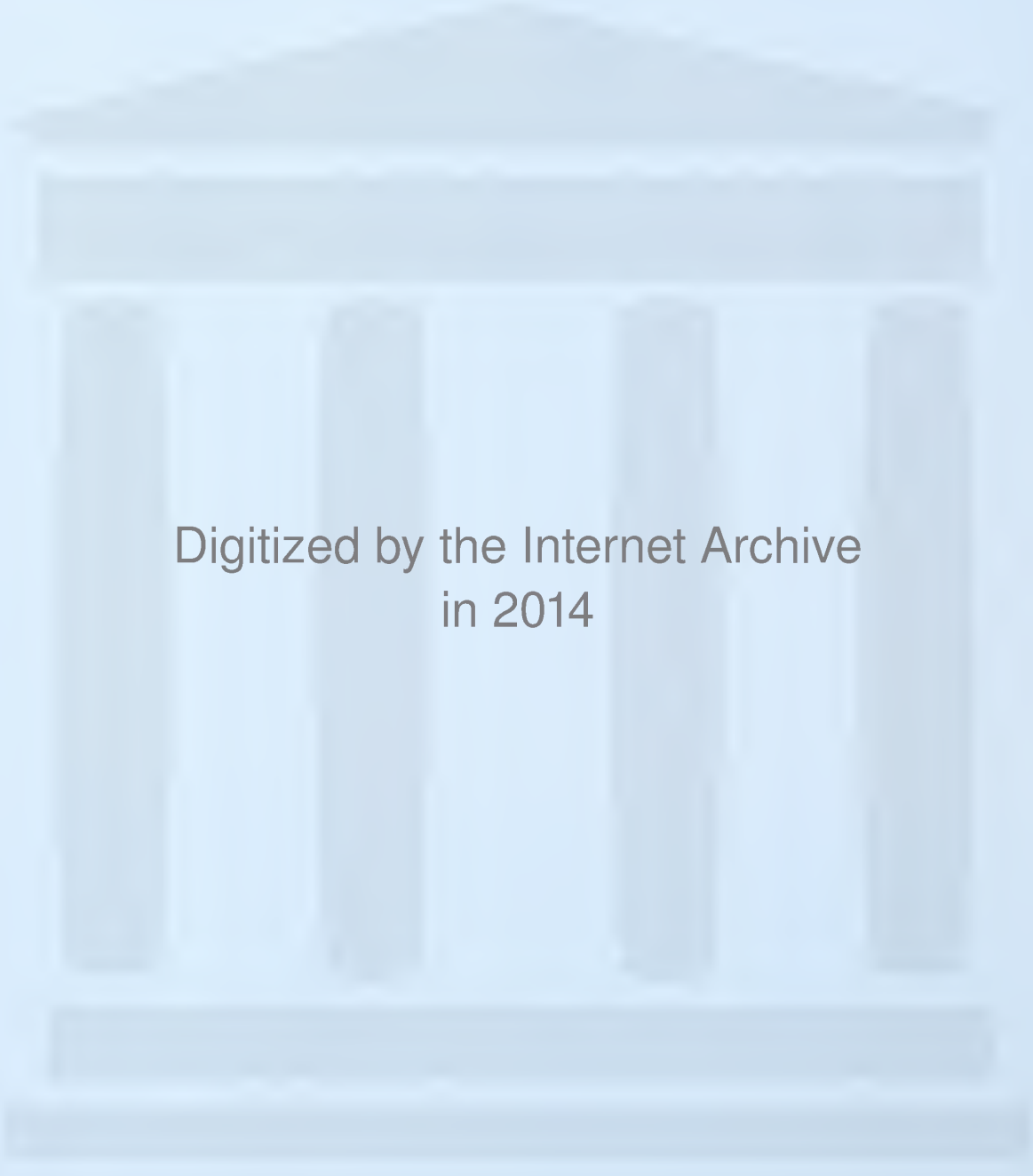

I INTRODUCTION

A. PURPOSE

The purpose of this study was to determine the probability of IBM re-entering the computer services market with specific emphasis on the impact of Remote Computing Services (RCS). Three major scenarios were to be developed and analyzed:

- IBM entering the services business in the USA as a separate business functioning as a profit center.
- IBM focusing on the implementation of distributed processing and not creating a separate profit center for computer services.
- The impact of Satellite Business Systems (SBS) on the RCS market.

B. APPROACH

From the beginning it was apparent there was the potential for complex interaction among the three scenarios and an independent analysis was impractical. For that reason, it was decided to:

- Analyze IBM's implementation of distributed processing (since they are theoretically committed to it) in order to assess its influence on IBM's decision to re-enter the computer services market.

- Isolate reasons (pro and con) for IBM re-entering the computer services market from IBM management's vantage point.

- Determine end user reactions to IBM's possible re-entry.

- Establish the role of SBS in both the distributed processing strategy and in providing current and/or future computer services.

- Project all of the above as a single, dynamic scenario over time - - - first to 1982 and then extending to 1987.

C. RESEARCH PROGRAM

The research program was broken down into general interviews and user interviews in equal number. (Appendix I contains the interview plan.)

- The general interviews were conducted with computer services vendors, federal government agencies, competitors (hardware manufacturers) and other IBM knowledgeables. The purpose being to:

  - Review the logic of our approach.

  - Refine the scenarios.

  - Establish current international patterns of IBM's service activities.

  - Determine counter strategies.

- The user interviews were restricted to large users (Fortune 1000) and decision makers spread across key industries (although sampling was limited by the total of 20 user interviews). The purpose was to:

  - Isolate potential market opportunities.

  - Assess user reaction to the scenarios.

  - Determine user reaction to the issues.

  - Establish market impacts.

- In addition to the interviews, an independent evaluation of SBS was prepared which incorporated information obtained from a separate study being conducted on value added networks.

- During the course of the research, it was determined that additional information was required in specific areas, and the planned research was extended with numerous confidential inquiries.

II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. CONCLUSIONS

- IBM has been successful doing what it does best - selling and servicing hardware.

- IBM was not successful in the computer services business and Service Bureau Corporation (SBC) was always viewed as a "poor cousin."

- Current IBM management is not favorably disposed towards the computer services business.

- Users are less than enthusiastic, and even negative, about possible IBM re-entry into the computer services marketplace.

- Anti-trust considerations are probably not as important to IBM's planning as many people would like to think.

- There is practically no possibility that IBM will actively pursue facilities management or batch services, and it would be difficult to get management approval for a plan to enter the remote computer services business.

- As long as IBM can meet its growth objectives by hardware oriented strategies there is little probability they will establish a computer services company or provide traditional processing services through their operating divisions.

- An analysis of IBM growth prospects revealed the following:

  - The Office Products Division (OPD) currently has revenues in excess of $2 billion and is the most rapidly growing division of IBM

  - The General Systems Division (GSD) - OPD's partner in the General Business Group (GBG) - has recently announced the Series/1, a minicomputer which should permit GSD to more than triple in size (to $3.5 billion) by 1982.

  - The Data Processing Division (DPD), with revenues in excess of $12 billion, is under some technological (price/performance) and competitive (plug compatible mainframes) pressure in its primary revenue source: general purpose computer systems.

- The key to IBM meeting growth objectives through 1982 depends upon DPD's ability to meet this challenge. An analysis of DPD strategy revealed the following:

  - DPD has adopted an aggressive pricing posture on its systems to meet both the technological and competitive challenge over the short term (through 1980). This amounts to price cutting which means they must sell more to maintain comparable revenue (or growth).

  - DPD's key strategy to compensate for this problem is to "distribute processing" and expand their sales in areas where they have been weak - communications controllers, minicomputers (terminal controllers), and terminals.

- After an in-depth analysis of EPD's distributed processing strategy, INPUT concluded:

  - IBM has a Major Account Expansion Program (MAEP) which is aimed at key industries to develop the full potential of distributed processing.

- Based on an actual case study, the potential revenue from this approach within a single industry (Diversified-Financial) was impressive.

- INPUT research disclosed that selected industries would be receptive to an IBM distributed processing strategy. Assuming even conservative IBM penetration of these industries, DPD will cover the substantial potential shortfall in revenue which had been projected for 1982.

- Based on this analysis, IBM can meet its corporate growth objectives for 1982 by successful implementation of its distributed processing strategy and will not have reason to enter the computer services business.

- The impact for this strategy was taken into account in INPUT's published forecast of the computer services industries growth.

- Even if IBM has other reasons for establishing an "information services" company (such as account control), they can do so without major impact on the computer services industry (or attention from the Justice Department).

  - IBM can establish services which are not readily available to their customers: major facilities back-up, host services for distributed processing, proprietary data bases, secured data bases, and secured customer networks.

  - These services would create a new market for "information services" and would be much more profitable for IBM since they are in support of hardware sales and permit more flexible growth patterns.

- The role of SBS was analyzed in detail and it was concluded IBM will maintain a straight-forward arm's length relationship.

  - SBS provides a capability which will permit IBM to implement automated office computer/communications systems for its customers. This market is enormous and will maintain OPD's (or its successor's) growth well into the 1990s.

- IBM has no desire to share the hardware (terminal) revenues from this business with its SBS partners.

- SBS can be used as an example of why communication carriers should remain pure.

- The merger of computer/communications technologies is opening up new markets for products and services which are so large that there are enough opportunities for all companies with foresight and resources.

  - The extension of computer power to smaller organizational entities under distributed processing seems to assure growth of data processing through the 1980s.

  - The opening up of "office automation" through the use of computer/communications networks presents a potential market which some have projected to exceed that of all data processing equipment sales to date, and presents dramatic new opportunities from the early 1980s through the 1990s.

  - Computer/communications services will eventually be extended to the consumer market starting in the late 1980s and extending through the end of the century.

B. RECOMMENDATIONS

- INPUT recommends that our predicitons of IBM's strategy be carefully monitored.

  - The report contains a general outline of important indicators which require review.

- A reassessment and refinement of the scenarios should be made before the end of 1978, and the expiration of the CDC agreement.

- GE should determine whether it will conform to IBM's specifications for distributed processing as described in their Systems Network Architecture.

  - The relative merits and risks of remaining compatible with IBM's SNA require continuous review.

  - There may be business opportunities in conjunction with other vendors which may permit the necessary degree of compatibility without complete end-to-end committment to IBM hardware.

- GE has the resources to, and should consider, taking advantage of many of the opportunities which have been outlined in the study. In fact, in certain market areas, GE could pre-empt IBM's entry. Among these opportunities are:

  - Planned penetration of the middle of IBM's line - 370/148s and below (which is extremely vulnerable during this interrim period) - on both a replacement basis and by extending supplementary services in the data base area.

  - The office automation and communications area has enormous potential for companies with resources (both financial and technical). GE's current network with the added capability of SBS presents some very attractive possibilities.

  - Major facilities back-up on an "insurance policy" basis is an excellent opportunity which IBM may not pursue at the present time.

C. SUMMARY

- INPUT is optimistic about the future of the computer services industry - with or without IBM

- INPUT believes there are substantial new opportunities for computer/communications srevices which are just beginning to emerge.

III THE PROBABILITY OF IBM OFFERING PROCESSING SERVICES

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A. THE BIG QUESTION - WILL THEY OR WON'T THEY?

- The general interviewees were carefully selected as individuals who had both an interest in possible IBM strategies and some knowledge of the IBM business planning process. It was not by accident that over half the domestic interviews were with IBM or ex-IBM employees. (Appendix I details those interviewed and Appendix 2 contains the general interview guide.)

- No one interviewed felt IBM would re-enter the computer services market by providing batch services and only one felt they would pursue facilities management. Among the reasons given are as follows:

  - Facilities Management

    . Conducted study - not profitable enough.

    . Legal implications and liability.

    . Too people dependent - personnel problems.

    . IBM would have to integrate competitive equipment in order to make profits.

    . Not oriented towards that business.

- Batch Processing

  - Old technology, obsolete conceptually.
  - Was never successful with SBC.
  - Not profitable.
  - People oriented.

- However, the answers were not as definitive to the more important question of whether IBM will provide remote computing services. While half (8) of the respondents believed IBM would re-enter that market by 1982, five predicted IBM would never provide remote computing services, and the other three felt it would be mid-to-late 1980s before IBM's re-entry. (See Chapter VIII for details.)

B. THE ARGUMENTS AGAINST RE-ENTRY (RCS)

- IBM is essentially hardware sales oriented - they have been successful in this area and will continue to do what they do best.
- SBC was not successful; it did not meet either revenue or profit objectives ($60 million revenue; $1.6 million profit in 1971) and was always regarded as a "poor cousin" within IBM.
- There is no reason to jeopardize the anti-trust case - especially for a relatively insignificant busienss.
- IBM's present top management is not oriented towards computer services - it would be impossible to get a plan approved.

- IBM is not prepared to enter the computer services marketplace for the following reasons:

  - Sales force not trained to market computer services to end users.

  - Weaker in industry marketing than they were 4-5 years ago.

  - Organizationally, they are not structured to re-enter.

  - They don't have the software products to really be successful.

C. THE POSSIBLE PRESSURES TO RE-ENTER

- The pressure of IBM's probable growth objectives are enormous (as illustrated in Exhibit III-1) and they must consider any high growth (and profit) opportunities in the computer/communications related markets.

- The projected growth rate of computer services exceeds that of computer hardware (see Exhibit III-2).

- The income of computer services companies approached IBM objectives of 20-25% before tax. (See Exhibit III-3.)

- Traditional IBM markets have always been associated with hardware sales which is shrinking as a percentage of overall EDP budgets. (See Exhibit III-4.)

- General purpose processors, especially at the high end, are under pressure from advancing technology (dramatic price/performance improvement) and plug-compatible mainframe competitors, and will represent a decreasing percentage of the hardware budget. (See INPUT's Impact Report #6, June 1977, "Plug Compatible Mainframes: The New Hardware Economics".) This product sector has been IBM's traditional strength and not the rapidly growing areas of minicomputers and terminals. (See Exhibit III-5.)

EXHIBIT III-1

IBM'S HISTORICAL AND

PROJECTED REVENUE OBJECTIVES

($ BILLIONS)

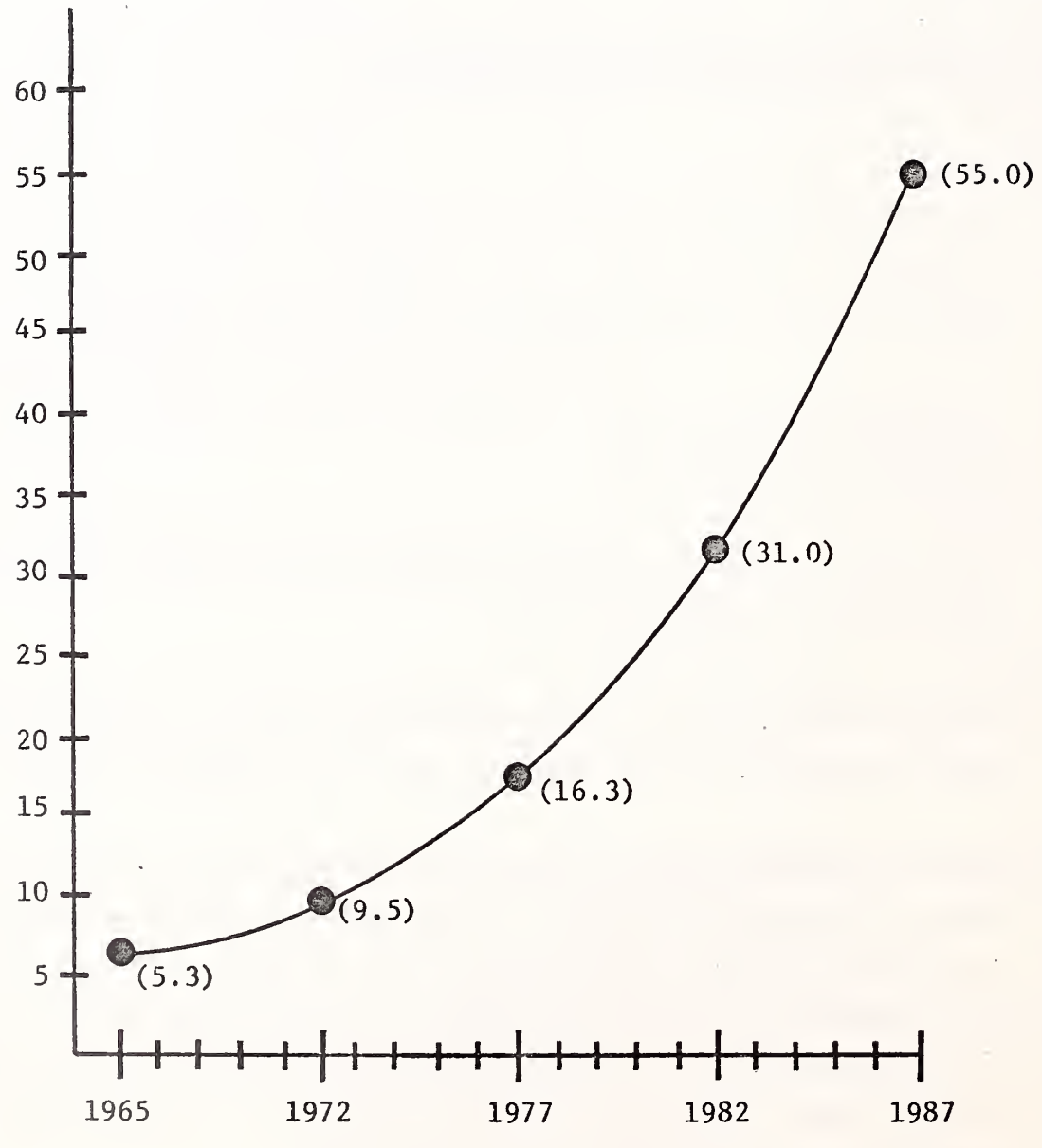

EXHIBIT III-2

COMPARATIVE GROWTH RATES
COMPUTER HARDWARE AND SERVICES
1976–1982

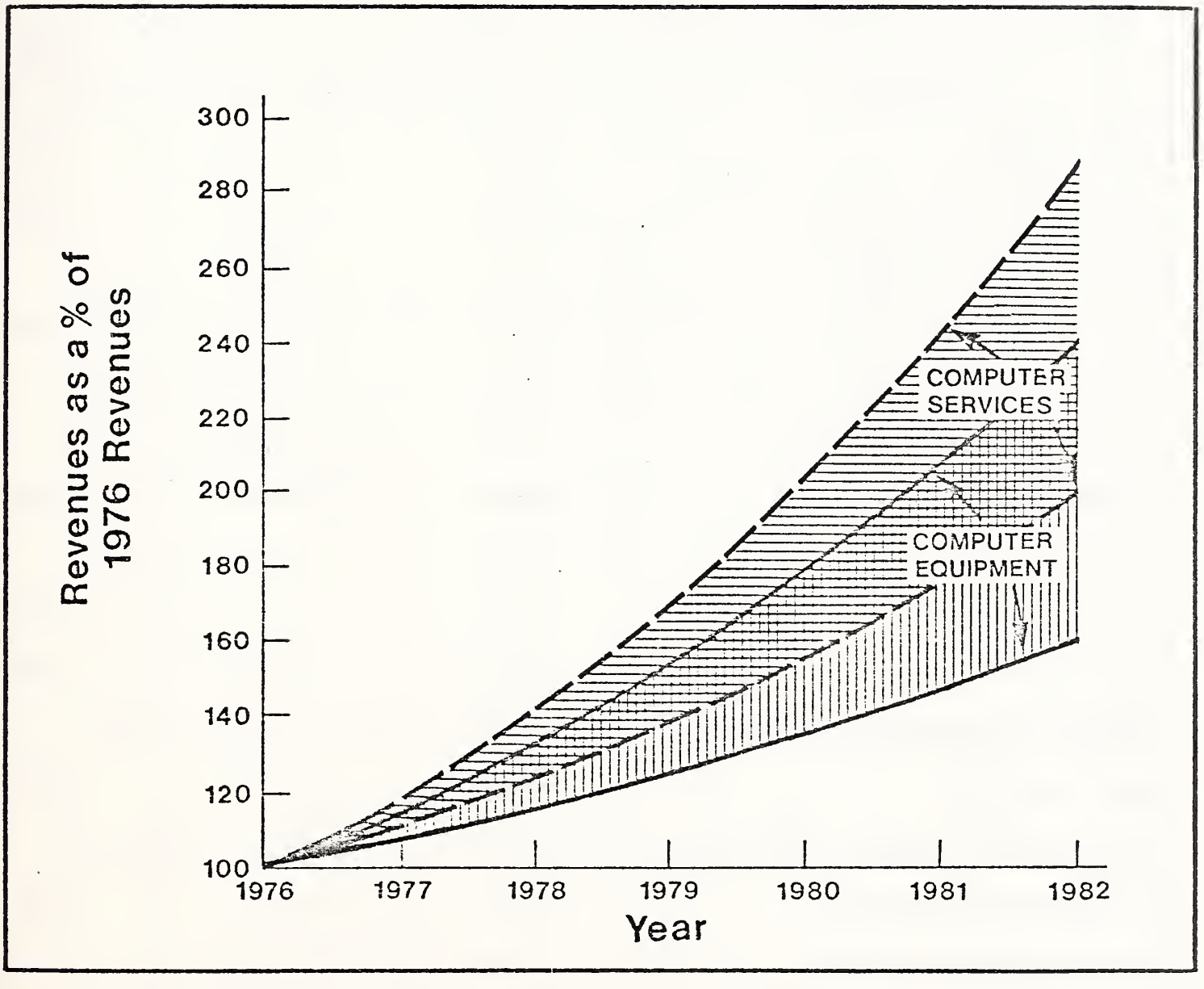

EXHIBIT III-3

FINANCIAL DATA FOR
COMPUTER SERVICES COMPANIES
HAVING OVER $20M REVENUES

PARAMETER	FISCAL 1975	FISCAL 1976	CHANGE 1975 – 1976
REVENUES	$409.9M	$477.3M	16%
INCOME ON OPERATIONS	$ 71.0M	$ 83.9M	18%
RETURN ON REVENUES	17%	18%	
STOCKHOLDERS EQUITY	$205.5M	$243.1M	18%
OP. RETURN ON EQUITY	35%	35%	
REVENUE TO EQUITY RATIO	2.0	2.0	
TOTAL ASSETS	$284.6M	$334.7M	18%
OPERATING RETURN ON ASSETS	25%	25%	
CURRENT RATIO	2.5	2.7	8%
CASH FLOW FROM OPERATIONS	$ 59.0M	$ 68.3M	16%
CASH FLOW RETURN ON REVENUES	14%	14%	
NET EARNINGS	$ 37.6M	$ 43.1M	15%
STOCKHOLDER RETURN ON EQUITY	18%	18%	
NUMBER OF EMPLOYEES	12,150	13,920	15%
REVENUES PER EMPLOYEE	$33,736	$34,289	2%

(M = MILLION)

EXHIBIT III-4

EDP BUDGETS & IBM REVENUE SOURCES

	EDP BUDGETS		IBM'S REVENUE DERIVATION
	1976	1987	1976
HARDWARE	35%	22%	95%
OUTSIDE SERVICES & PROGRAM PRODUCTS	11	18	5
PERSONNEL	44	40	-
COMMUNICATIONS	10	20	-
TOTAL	100%	100%	100%

EXHIBIT III-5

HARDWARE BUDGET DISTRIBUTION

	EDP BUDGETS		IBM'S REVENUE DERIVATION
	1976	1987	1976
PROCESSORS AND MAIN MEMORY	31%	20%	45%
PERIPHERALS (DISKS, PRINTERS, ETC.)	27	25	35
MINI-COMPUTER SYSTEMS	9	25	2
TERMINALS AND DATA COMUNICATIONS	20	30	9
DATA ENTRY	13	*	9
TOTAL	100%	100%	100%

*ABSORBED WITH TERMINALS BY 1987.

- Computer networks and services have given rise to distributed processing which has exposed IBM's weakness in the minicomputer, communications, and terminal areas.

- There is an acute shortage of qualified systems personnel to install complex computer/communications networks, and computer services companies are "growing" their skills faster than IBM.

- Computer services companies' network expertise and successful end users sales threatens IBM account control.

D. CONCLUSIONS

- IBM must meet the threat to its traditional market areas - central mainframes and peripherals.

- IBM must strengthen its weak market areas in order to grow.

  - Minicomputers.
  - Terminals.
  - Data entry systems.
  - Program products (including data base systems).
  - Programming services.

- IBM must enter and exploit new areas such as:

  - Communications.
  - Processing services.

- IBM management's priorities must be as follows:

  1) Meet the threat to traditional markets.
  2) Strengthen weak areas.
  3) Enter new areas.

- If growth objectives can be met by 1 & 2 above, there is much less incentive to enter new areas.

IV THE IMPLEMENTATION OF DISTRIBUTED PROCESSING

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A. IBM ORGANIZATION

- The three major components of IBM to be analyzed are the Data Processing Division (DPD), General Systems Division (GSD), and Office Products Division (OPD). Their respective contribution to revenues are shown in Exhibit IV-1. (See definitions in Appendix 3.)

- OPD grew more rapidly than DPD during the 1970-1975 time frame and is substantially larger than GSD. A simple linear projection indicates this relationship will remain through 1982. (These projections are not intended as a forecast; we anticipate IBM's growth will be greater.)

- OPD and GSD share common management in the General Business Group (GBG). This grouping has many potential organizational advantages.

  - Bring "data processing" management, planning and control to "low end" marketing for small business and office environments.

  - Provide for a common planning data base between OPD and GSD (our interviews indicated this is being done).

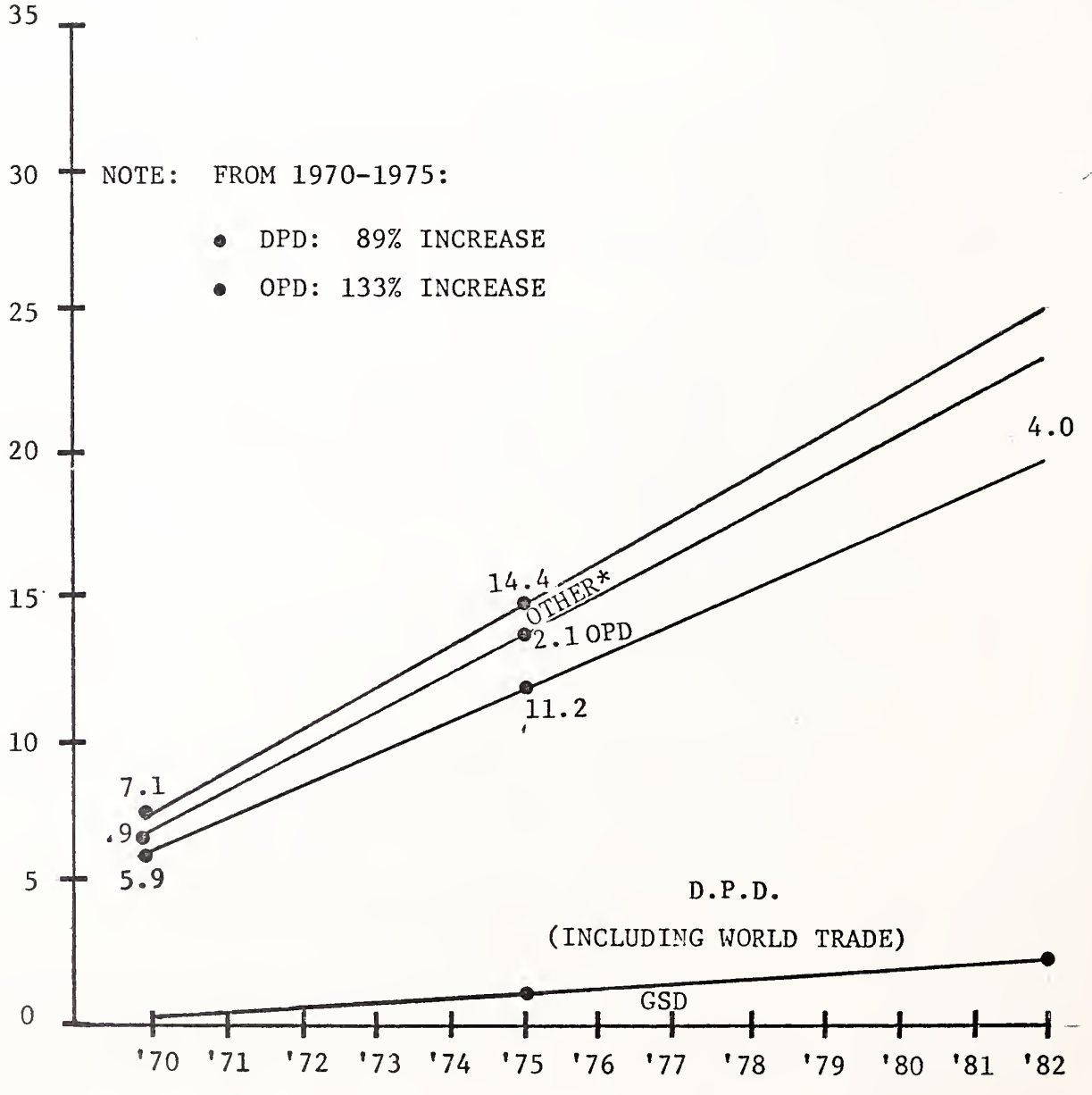
  - Facilitate the transfer of computer/communications technology into the office environment.

EXHIBIT IV-1

IBM REVENUE SOURCES

(1970-1975 WITH LINEAR PROJECTION THROUGH 1982)

($ BILLION)



*OTHER - FSD, SRA, SUPPLIES

- Improve communication and coordination between those marketing to end users.

- A common complaint from users and a critical observation from others was the lack of coordination between DPD and GBG - especially GSD.

B. RECENT TACTICS

- DPD announcements of improved price/performance to counteract the threats to the traditional product line as outlined in Chapter III.

-	370/138,148	6/76
-	3033	4/77
-	3032. 3031	10/77

- It is generally conceded in the industry that these moves were defensive in nature and do not represent a long term answer to advancing technology and competition. However, the announcements were very aggressive in nature and resulted in substantial order activity.

- These systems use "old" technology and should provide high profit margins for IBM. (See INPUT's "Plug Compatible Mainframes: The New Hardware Economics").

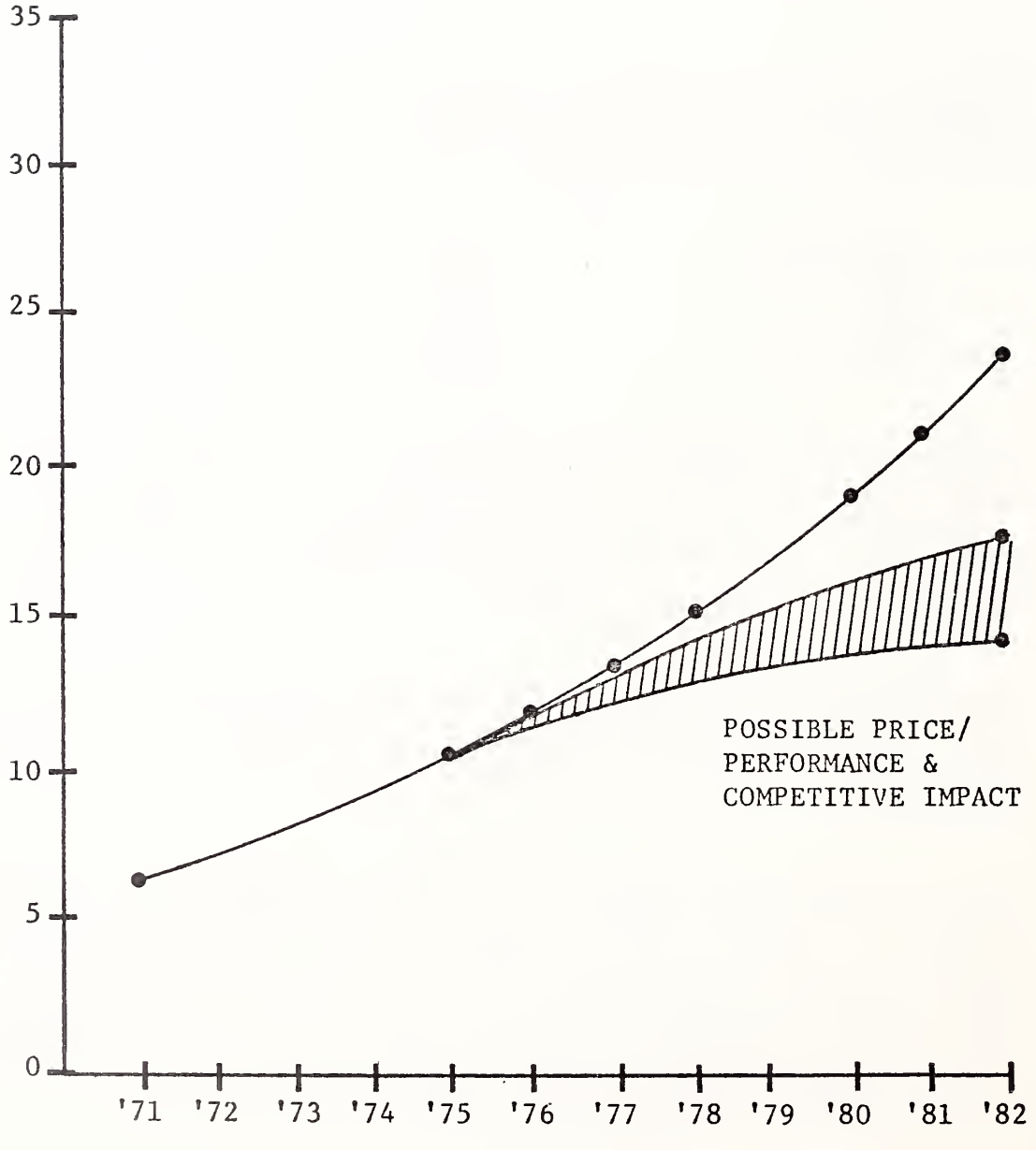
- During 1971-75, DPD revenues increased at a compound growth rate of 12%. Projected to 1982, this would produce revenues of $22.8 billion. However, DPD's new announcements provide over two times the processing for the same dollars, and this improved price/performance carries a potential exposure of between $4.6-8 billion lost revenue in 1982. (See Exhibit IV-2.)

EXHIBIT IV-2

DPD (REVENUES)

PROJECTED TO 1982

($ BILLION)



● ● ● A 12% COMPOUND GROWTH RATE

- IBM would never have announced such price/performance improvements (even considering the threat of the PCMs) without a plan to control this potential impact on growth.

- GSD's announcement of Series/1 was designed to improve IBM's position in the rapidly growing minicomputer market, as shown in Exhibit III-5.

- It is not anticipated that Series/1 will have serious immediate impact on the sale of IBM small business systems. With projected Series/1 shipments (estimated at 5%) GSD should experience exceptional growth and have over $3 billion in revenues by 1982. (See Exhibit IV-3.)

- The Series/1 provides the potential for containing the growth of processing services, since it is usable as a business computer for small and first time computer users. (The IBM Series/1 is analyzed in the INPUT study of that title.)

- In the past, OPD has been generally ignored both within IBM and by the rest of the computer industry. Its current size, growth rate, and potential dictates that it receive increased attention in the future.

- OPD is currently a $2.5 billion business which has a compound growth rate in excess of 17%. If it continues at that rate, it will have revenues in excess of $6 billion in 1982. (See Exhibit IV-4.)

- The current OPD revenue mix is 24% office copiers, 27% word processing systems, and 40% typewriters and dictating equipment.

- New technological development in both processors and information storage offer the potential for enormous growth as "office automation" occurs. However, the current product lines are all subject to impact and this must be handled in an "orderly fashion."

EXHIBIT IV-3

GSD PAST & PROJECTED REVENUE

1971-1982

($ BILLIONS)

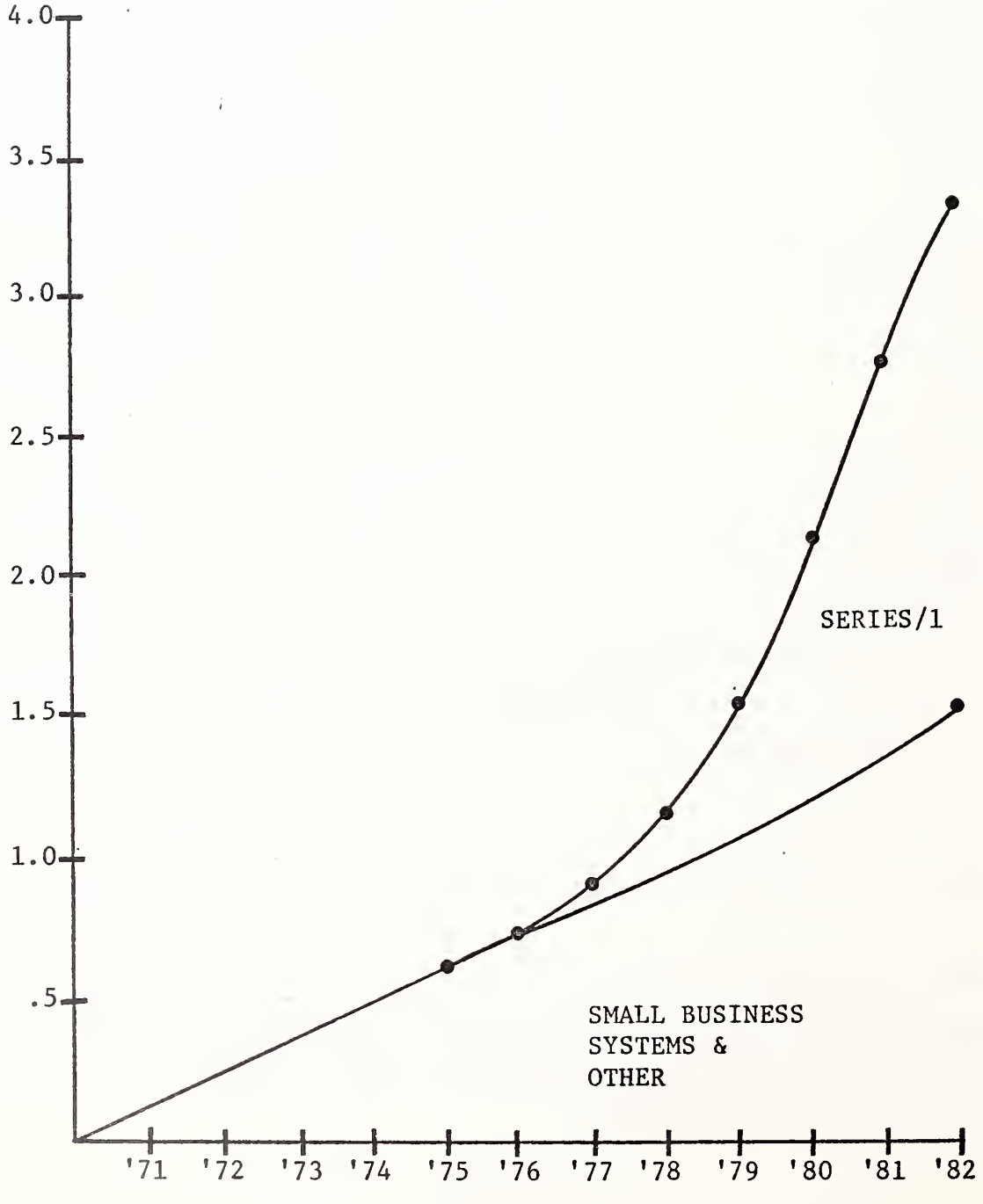
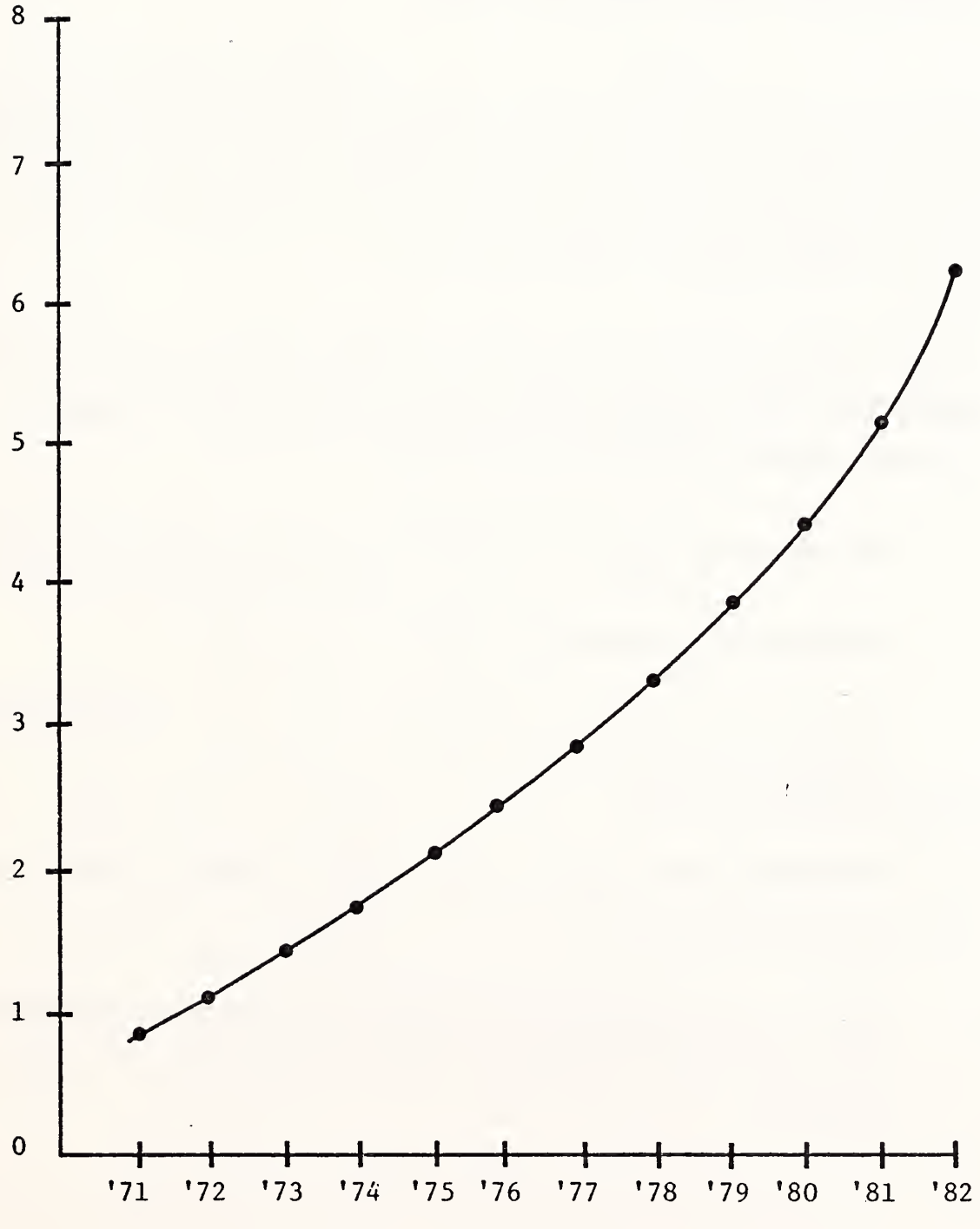


EXHIBIT IV-4

OPD PAST & PROJECTED REVENUES

(1971-1982)

($ BILLIONS)



- Currently, the main threat to IBM corporate growth objectives in 1982 is the exposure to traditional DPD growth rates created by the technological and competitive environment. IBM's aggressive price/performance reaction creates the possibility of a $2.3-5.6 billion shortfall despite excellent performance by GSD and OPD. (See Exhibit IV-5.)

C. DISTRIBUTED PROCESSING STRATEGY

IBM was forced to react to the economics of computer/communications networks, and announced its Systems Network Architecture (SNA) in 1975. This outline plan for distributed processing is still not clearly defined, but it has a significant potential for solving many of IBM's problems. (See Exhibit IV-6.)

- Although DPD was the original architect of SNA, it also has great potential for both GSD and OPD which has led to some confusion in the marketplace. Some comments received during interviews were:

  - "Marketing and support are difficult to organize across GBG and DPG."
  - "Distributed processing with small business systems."
  - "Every small system is a potential remote center - including 32s, 34s, 5100s and Series/1."
  - "A major growth thrust of IBM is the combining of office and data processing equipment."
  - "IBM is still oriented towards having users depend on large mainframe for most of their processing. Series/1 may be the first break in that pattern."

EXHIBIT IV-5

IBM CORPORATE GROWTH OBJECTIVES

AND 1982 PROJECTED REVENUES

($ BILLIONS)

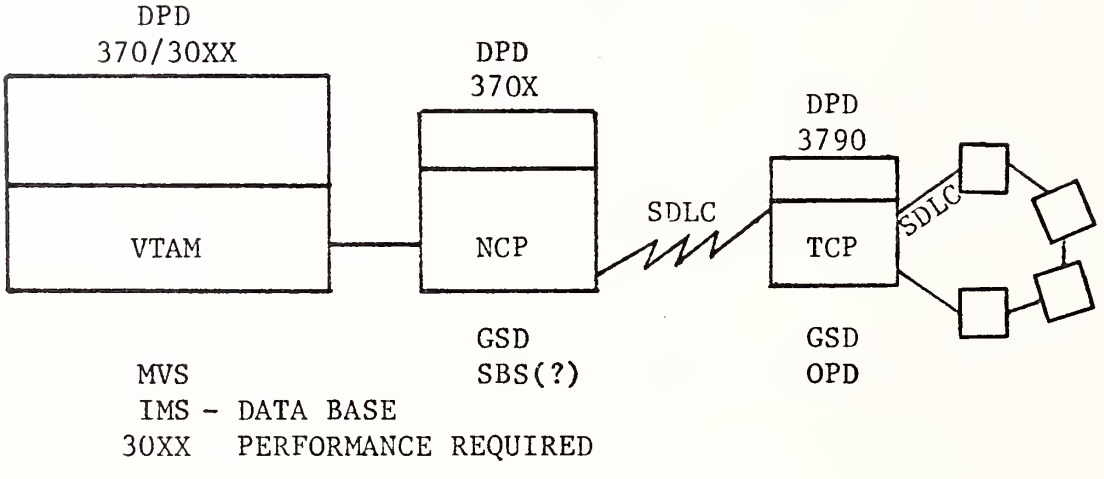
Revenue Objectives (1982)		31.5
Projected Revenues		
GSD	3.2	
OPD	6.3	
FSD	.5	
OTHER	1.0	11.0
Required DPD Revenue Goal:		20.5

DP Revenues:

High Impact	14.6:	-5.6	(Shortfall of Goal)
Medium Impact	18.2:	-2.3	(Shortfall of Goal)
At 12% Growth	22.8:	+2.3	(Exceeding Goal)

EXHIBIT IV-6

IBM'S SYSTEMS NETWORK ARCHITECTURE



HARDWARE/FIRMWARE/SOFTWARE "FLEXIBILITY"

- "There is planned competition between SNA and Series/1" - Source: IBM.

- "IBM will eventually implement distributed processing under an SNA-like architecture". . . . but: "They had better get their act together DPD and GSD are telling different stories - Series/1 is being sold in competition with SNA concepts." - Source: IBM customer.

- There are currently many open questions about SNA, and it appears that it will probably take at least until 1982 before really significant progress can be made in establishing a firm plan.

  - "It will be a long time before data bases are distributed."

  - "It will be 10 years before distributed processing is accepted by a majority of users - neither storage nor CPUs are sufficiently reliable yet."

  - "3033 seems to be putting a brake on distributed processing."

  - "IBM's SNA still envisions central control . . . . all processing highly host dependent."

  - "It will take a long time for IBM to implement distributed processing . . . . they will move slowly to implement; they are still committed to large mainframes."

- The general consensus of those interviewed was that despite reluctance to distribute processing and some confusion about GSD's role, IBM was committed to promote the distribution of processing:

  - "They are committed to implement (SNA) . . . . "

  - "Distributed processing is the name of the game."

- "IBM will probably integrate the existing capabilities of systems 32, 34 and 370 . . . . include in that word processing, electronic mail and tie the whole thing into MIS oriented functions."

- "The applications packages developed for Series/1 may provide the first distributed processing applications capability."

- "IBM is getting ready on many fronts - Series/1, APL, VSPS."

- "Distributed processing is the driving factor."

- "Distributed processing for small and medium customers."

- It is possible to implement distributed processing by either extending services out from a large center (DPD strategy) or start at the remote modes and connect to other modes for needed processing services or data (GBG Strategy). IBM corporate management has elected to pursue both approaches - at least temporarily. This may well be a wise strategy whether it was planned or merely evolved. It certainly keeps everyone off balance and provides IBM with maximum flexibility.

D. DPD STRATEGY TO 1982

- Despite the apparant reluctance of DPD to distribute processing of their large mainframes, an effective D/P strategy could solve their potential revenue problems by:

  - Using up the cheap CPU cycles which will become available on the 30XX series.

  - Facilitate the sale of IBM minicomputer and terminal hardware by providing integrated systems.

- Increase program product revenue by selling proprietary applications systems (on an industry basis).

- Increase the use of proprietary data base systems (IMS) by implementing distributed data bases.

- Make compatibility more difficult (for both hardware and software competitors) by the planned and shared distribution of both hardware and data base up and down the SNA hierarchical structure. (See Exhibit IV-6.)

- Complicate the compatibility problem and enhance revenue by hardware/firmware/software shifts at all levels of the processing hierarchy.

- The ultimate effect of the DPD distributed processing strategy and tactics would be to drastically change the sources of IBM's revenues as depicted in Exhibits III-4 and III-5.

  - It would increase the portion of IBM's revenue from program products.

  - It would absorb portions of the user's EDP budgets currently expended for personnel and communications.

  - It would shift IBM's hardware revenues away from central processors and into the more rapidly growing areas of minicomputers and terminals.

- Respondents to the general questionnaire felt that IBM would direct its efforts towards industry specialization (87% responded "yes"). However, there was some concern expressed about IBM's current capability to effectively penetrate specific industries.

- In-depth research was conducted into IBM's efforts in one particular industry (Property and Liability Insurance) under their Major Account Expansion Program (MAEP). The purpose was to determine the ramification of this program for DPD's distributed processing strategy. The results are summarized (from IBM sources) in Exhibit IV-7.

- The MAEP case study also revealed the following:

  - Its major thrust was to automate operations of the 120 branches of the pilot company.

  - It had little impact on IBM's installed base - hence the impressive Net Sales Revenue Increase (NSRI).

  - The effort resulted in not only an effective distributed processing applications solution, but a program product for distributed data base (DMS/3790) to be released in the first quarter of 1978.

  - It was implied (by interview) that certain functions should be placed in hardware (firmware).

  - A property and liability insurance industry organization is currently being planned (Insurance Institute for Research) to plan for distributed processing. The concept is to save on development expenses and share the cost of communications network costs.

  - The pilot company does not lie within the Fortune fifty largest diversified - financial companies. In fact, on the basis of assets, it represents less than .5% of the total of the fifty largest. (Aetna is the largest with more than $15 billion.)

- All diversified - financial and life insurance companies have comparable problems in branch office operations, lending themselves towards distributed processing solutions. The potential revenue growth in these two major industry segments is between $2-5.4 billion. (See Exhibit IV-8.)

EXHIBIT IV-7

IBM CASE STUDY:

MAJOR ACCOUNT EXPANSION PROGRAM

(PROPERTY & LIABILITY INSURANCE)

- JOINT STUDY BETWEEN IBM & CUSTOMER EXTENDING FROM 1972 TO 1976.
- PROVEN SOLID COST JUSTIFICATION FOR CUSTOMER AND DEVELOPED INTEGRATED DESIGN SOLUTION.
- OBTAINED CUSTOMER COMMITMENT TO THE "MAEP SOLUTION" - IMS/MVS/VTAM/NCP/3790
- GAVE CUSTOMER A BOOST TOWARD IMPLEMENTATION
- EDUCATED 8 IBM PEOPLE IN DETAILS OF P & L INSURANCE - PARTICULARLY FIELD OPERATIONS
- ESTABLISHED FIRM BASE FOR IBM DELIVERABLES
- DEVELOPED TRANSFERABLE IBM SOLUTION
- NET SALES REVENUE INCREASE (NSRI) THROUGH 1982

  - PILOT COMPANY - 840,000 POINTS (ROUGHLY $ PER MONTH)
    (MP 168, 210-3791's, 886-3277's)

  - P & L INDUSTRY - 7,300,000 POINTS
    (INCLUDING 675-3790's)

EXHIBIT IV-8

POTENTIAL INCREASES IN INSTALLED BASE & YEARLY

REVENUES BASED ON MAEP CASE STUDY

	NSRI (POINTS-MILLION)	INCREASED INSTALLED BASE ($ MILLION)	INCREASED* YEARLY REVENUE ($ MILLION)
Property & Liability Pilot Study	.84	42	11.34
Projections Base on Relative Assets			
Fortune 50 Diversified - Financial	168.0	8,400	2,268
Fortune 50 Life - Insurance	420.0	21,000	5,670
Total	588.0	29,400	7,938
Case 1			
"Normal" IBM Penetration - 70%		20,030	5,408
Case 2			
"Limited" Penetration - 25%		7,350	1,984

*Current IBM Ratio Installed Base to DP Revenues = 27%

- An interview source revealed that 18-20 joint IBM industry studies are being conducted at any given point in time, and that the results are normally applied to 10-15 comparable companies. These studies are aimed at providing "total solutions" for large companies which will unquestionably provide their own processing services. However, the concept of industry associations to share development and communication expenses (as in the property and liability insurance industry) would seem to apply in many cases.

- When interviewees (general) were asked to specify the industries on which thy felt IBM would concentrate, the following were the most frequently mentioned:

-	Banking	9
-	Distribution/Retail	8
-	Hospitals/Medical	6
-	Insurance/Brokerage	5
-	Manufacturing	4

- The potential for increased hardware sales by applying a "MAEP-type" approach has been demonstrated for the insurance/diversified-financial areas, and there is every indication IBM will attempt to penetrate all major industries. (The former IBM project leader on the insurance study cited is currently serving in a similar capacity at one of the largest commercial banks.) If the NSRI for all industries is comparable to that of the pilot study, IBM could double or quadruple its installed base. (See Exhibit IV-9.)

- There can be little question that DPD will pursue distributed processing with its major customers - the potential growth is too attractive to ignore. However, DPD's concept of distributed processing is the classic IMS/MVS/VTAM/NCP/3790 approach which requires a 3031 (370/158) at the very least, and 60% of DPD's revenue comes from smaller systems. For that segment of the market, the following will probably be done:

EXHIBIT IV-9

INCREASED REVENUE POTENTIAL FROM FIVE

MAJOR INDUSTRIES* AFTER PROCESSING DISTRIBUTED

	INCREASED INSTALLED BASE ($MILLION)	INCREASED YEARLY REVENUE ($ MILLION)
COMMERCIAL BANKS**	58,000	15,660
DISTRIBUTION**	45,000	12,150
INSURANCE (FROM EXHIBIT IV-8)	21,000	5,670
DIVERSIFIED FINANCIAL (FROM EXHIBIT IV-8)	8,400	2,268
MANUFACTURING**		
DISCRETE	45,000	12,150
PROCESS	15,000	4,050
MEDICAL**	27,000	7,290
TOTAL	219,400	59,238
70% IBM PENETRATION	153,588	41,466
25% IBM PENETRATION	54,000	14,809

*ESTIMATED TO REPRESENT 83% OF THE TOTAL TERMINAL MARKET

**PROJECTIONS BASED ON PROJECTED PERCENTAGE OF TOTAL TERMINAL MARKET EARLY 1980's

- Try to upgrade as many intermediate scale systems as possible - the 3031 was announced with performance relative to the 148. It is the classic IBM strategy and it has worked well.

- Sell add-on boxes to "distribute processing" from the smaller systems and improve performance (front or back-end processors, language processors, etc.).

- "Permit" selective penetration of GSD's Series/1 to provide "poor man's distributed processing" for end users who are buying timesharing or other services outside.

E. GSD STRATEGY TO 1982

- GSD's entire mission is to address the minicomputer problem and minicomputers make distributed processing not only attractive but necessary. Stand-alone, cheap computer power is one form of "distribution" processing.

- Exhibit IV-6 illustrates the fact that while SNA was a DPD architecture, GSD products (specifically Series/1) are competitive at the end user level. This competition does not necessarily have to be "bad" from the point of view of IBM corporate management. The DPD distributed processing strategy outlined above does not reach out to small users unless they are parts of large organizations. GSD is essentially concerned with small independent users, many of which are either "first time users" or currently buy processing services from a computer service bureau. It is new business for IBM.

- The Series/1 has such good price/performance (especially by IBM standards) that it has already become competitive with DPD products in a distributed processing environment. This conflict was clearly pointed out previously, but should be restated in order to put it into perspective.

- Our interviews were conducted with large users and occasionaly one would mention that a GSD salesman had mentioned "off-loading" a large IBM system.

- These are probably chance encounters - not many of the 90-100 thousand Series/1s IBM will install in the next four years will impact 370X or 3790 sales.

- IBM may like to give the impression that GSD is DPD's biggest competitor but the situation is probably under control.

- In excess of 95% of Series/1 sales will be against competitive non-IBM products.

- GSD also presents an attractive alternative for the intermediate or small DPD customer who cannot afford the expense of large scale IBM interactive systems - "the poor man's D/P."

- The proper place for GSD products within the SNA framework will be determined and compensation plans will be developed which will insure that both GSD and DPD will have an interest in seeing the "conflict" resolved. Series/1 was specifically mentioned on numerous occasions during the course of interview questions concerning distributed processing. Even though the exact role was not apparent, the implication was clear - Series/1 had a big part to play in the overall scheme of distributed processing.

- Series/1 will probably be the first system which produces substantially more revenue for IBM from the sale of software and maintenance service than it does from hardware.

  - Maintenance is approximately 10% of the purchase price per year and the maintenance revenue on the installed Series/1 base in 1982 will be approximately $320 million.

- $600 per month over the life of the system for software is a low figure in lieu of hiring a programmer or contracting for outside programming. IBM can afford to spend tens of millions of dollars on program development and still make hundreds of millions per year in additional revenue. They will do this.

- GSD will provide the valuable experience of training a sales force to market to end users. Several interviewees mentioned IBM's weakness in marketing computer services - the fundamental problem being IBM's tendency to sell their solution rather than solve the user's problem. IBM is always sensitive to marketing weakness - GSD actually hired salesmen from outside of IBM. That's something to think about, but it isn't reassuring since IBM will be sure to correct any weakness in marketing.

- GSD is in the position of exploiting new revenue sources and the 1982 growth projected in Exhibit IV-3 is probably conservative. It can be obtained without defining GSD's end role in the overall distributed processing environment.

- While GSD has five years to define its role, it will probably be done sooner by announcement of software support and new products. As one IBM respondent said: "Minis look for a host."

F. OPD STRATEGY TO 1982

- OPD is a rapidly growing $2.5 billion business most people tend to discount when they think of IBM's overall strategy. Not many respondents felt office automation was a major reason for entering the computer service market.

- However, once an intra-company word processing network was described, it received the highest acceptance ratio among new services from the general interviewees (most combined 1 and 2 rankings). While users did not share this enthusiasm, word processing was not described in a network environment.

- OPD does not have a "data processing" image and its traditional product lines will be impacted by technology either from within IBM or from some other source. The organizational grouping of GSD and OPD recognizes this and sets the stage for an "orderly transition" which will extend well beyond 1982.

- OPD, because of its very nature, has experience selling to end users and it is in an excellent position to sell "intra-company communications" on the broadest possible basis:

  - Word processing leads naturally to "intra-company mail."

  - Facsimile and graphics follow logically once cheap communications become available in the early 1980s.

  - Coordinated data and information transmission planning becomes essential.

  - PABX and voice fill out the picture.

- While users were less than enthusiastic about IBM's re-entry into the conventional computer services business, many mentioned a need for communication services described above - OPD (or at least GBG) seems the logical place to coordinate such services.

- Such a plan would permit growth of OPD using essentially conventional product lines through 1982 to achieve the growth forecast in Exhibit IV-4. The plan for interfacing with distributed processing would be developed during that time and be ready for the mid-late 1980s when office automation will merge with "data processing."

G. SBS ROLE IN DISTRIBUTED PROCESSING TO 1982

- Over 90% of those responding felt IBM would build a network, but the role of SBS was felt to be primarily as a carrier. Comments received from users vary but are indicative of the attitude.

  - Its a "place to put a 'few dollars' and shake everybody up."
  - "SBS is a totally separate entity . . . . IBM will use if it provides a competitive edge."
  - "SBS will not be a major factor."
  - "Anyone can use SBS - however, IBM will be on the inside."
  - "IBM will not want to commit its communications services to one supplier."
  - "We'll buy from SBS or others as appropriate."
  - "SBS is the launch vehicle for their re-entry into computer services."
  - "With SBS they have a preferred vendor who will be responsive to their needs."
  - "SBS along with other vendors."

- There is every indication that SBS will remain pure. It will be a common carrier which is responsive to the needs of the data processing and general business requirement.

- In this role, it will attempt to stay ahead of other carriers in providing services not readily available elsewhere. Economic transmission of massive amounts of data will be its initial direction.

- However, as problems become apparent with traditional carriers, it may extend itself to solve them. Local services could become attractive quite early but implementation would take longer.

- It will be especially effective in supporting OPDs future orientation which was described above.

H. HARDWARE/FIRMWARE/SOFTWARE STRATEGY TO 1982

- Underlying SNA and IBMs distributed processing strategy is a major question of compatibility. Several observations are in order:

  - IBM does not want to cause conversion problems for its vast customer base - it will lead them gently toward the future.

  - From IBM's point of view, plug compatible peripherals caused enough problems, but plug compatible mainframes are not tolerable.

  - IBM cannot afford to sell only the host systems under SNA and let everyone else have the communications processors, minicomputers, and terminals.

  - IBM does not feel it has an obligation to give anyone a free ride on its systems software, and even IBM-baiters would not find such an argument tenuous.

- IBM has already started to engage in a hardware/firmware/software strategy which will make the PCM's life more difficult. The Extended Function available on the 30XX series is a small step toward not only getting some value out of the control processors (so it is billable) but also serving as an initial warning that hardware/firmware/software is dynamic and with new technology will be even more so.

- This will permit IBM to charge for systems improvements and as applications are placed in firmware it will be possible to bill on a usage basis. Whether such billing is viewed as a computer resource unit (CRU) or software resource unit (SRU) is immaterial and may in fact change over time as "software" functions are absorbed into hardware.

- The resources required to react in such an environment are greater than those to initiate the changes. Either consciously or unconsciously, IBM is going to make most hardware vendors go through an extremely complex pattern of change - it will be expensive.

- Software vendors, while not specifically the targets of the HFS strategy, will also be impacted. Maintenance will become expensive and improved performance through firmware implementation will make IBM products more competitive.

- Persistant rumors abound concerning the binding together of IBM systems software with its host through checking of serial numbers and other means. Since HFS provides a more subtle approach to the PCM problem, this will only be done as a last resort.

- One of the most controversial questions raised is whether or not IBM will use encryption as a means of locking out competitive minis and terminals under SNA. While a complete lockout seems unlikely, encryption could be used to discourage use of competitive hardware if a "really secure system" is required.

- A combination of encryption and terminal serial number checking under an IBM data base system could provide an attractive security system which would impact all IBM competitors with one announcement. (Of course it wouldn't be required - it would only be for those who need a secure environment.)

- A specific case of compatability problems may occur with the Series/1 once IBM decides how it should interface under SNA. There is no assurance user or OEM developed software will interface conveniently and the end user may have to pay a premium unless he adopts the prescribed solution to distributed processing. (After all, DPD didn't sell those systems, GSD did!)

- IBM will employ the HFS strategy as required to maintaim account control and meet its revenue objectives between now and 1982. Customer convenience and compatability will suffer as account control and revenues dictate - in some ways, everyone has an interest in a successful IBM plan.

I. ANALYSIS OF DISTRIBUTED PROCESSING SCENARIO

- The distributed processing scenario is the key to IBM's overall strategy between now and 1982. INPUT's research has confirmed its existence and importance.

- The degree to which it is successful will have major impacts on any other actions IBM will take including its re-entry into the computer services business.

- Within the overall distributed processing strategy, DPD revenues are of primary importance.

  - In Exhibit IV-5, was identified a possible $2.3-5.6 exposure to corporate growth objectives which was solely attributable to impact on DPD revenues.

- In Exhibits IV-8 and IV-9 potential DPD revenues were based on projecting the successful implementation of distributed processing by industry.

- Since these increased revenues are enough to satisfy even IBM's growth objectives, the only questions which remain are whether the projections are reasonable and when they will be achieved.

- As a means of testing the reasonableness of the projections, including 1982 revenues, increased terminal sales were forecasted using independent data. Increased revenues from the MAEP case were applied on a per terminal basis. (See Exhibit IV-10.)

- DPD only has to achieve 16-38% market penetration to cover its potential shortfall in revenue in 1982, which should be achievable.

- IBM has an extremely high probability of achieving its revenue objective through 1982.

- INPUT forecasts the RCS market in 1982 to be $5,680 million. Assuming IBM pursued this market aggressively, but the risk/reward ratio is unattractive. Obtaining 5-10% might be difficult considering the lack of enthusiasm for IBM's re-entry which was indicated by users as well as by IBM management.

- Therefore, it is highly improbable IBM will enter the conventional computer services business prior to 1982.

- The impact of successful implementation of IBM's distributed processing strategy on the computer services industry will not change INPUT forecasts of computer services industry growth. (See Exhibit IV-11.)

EXHIBIT IV-10

INCREASED DPD REVENUE GENERATED

BY IMPLEMENTATION OF DISTRIBUTED PROCESSING - 1982

INCREASE IN TERMINAL INSTALLED BASE - 1982

MULTIPLE STATION CRT'S (PROGRAMMABLE)	400,000
SINGLE STATION CRT'S (PROGRAMMABLE)	350,000
PROGRAMMABLE RJE STATIONS	30,000
BANKING TERMINALS	125,000
POINT OF SALE TERMINALS	245,000
TOTAL	1,150,000

PILOT STUDY NSRI PER TERMINAL (886 3277's)		948
NSRI BASED ON INCREASED INSTALLED BASE	1.09	BILLION
TOTAL INCREASED INSTALLED BASE	54.5	BILLION
TOTAL ANNUAL INCREASED REVENUE (27%)	14.7	BILLION
REQUIRED IBM MARKET SHARE (HIGH IMPACT DEFICIT - 5.6B)	38%	
REQUIRED IBM MARKET SHARE (LOW IMPACT DEFICIT - 2.3B)	16%	

EXHIBIT IV-11

COMPUTER SERVICES MARKET

FORECASTS BY MODE AND TYPE OF SERVICE,

1976-1982

TYPE OF SERVICE	USER EXPENDITURES ($ MILLIONS) BY MODE OF SERVICE											
	REMOTE COMPUTING SERVICES			FACILITIES MGMT.			BATCH			TOTAL		
	1976	1982	AAGR	1976	1982	AAGR	1976	1982	AAGR	1976	1982	AAGR
GENERAL BUSINESS	$ 188	$ 656	23%	$ 17	$ 49	19%	$ 427	$ 698	8%	$ 630	$ 1,400	14%
SCIENTIFIC AND ENGINEERING	225	551	16	107	181	9	80	76	(0.4)	410	810	12
INDUSTRY SPECIALTY	937	2,935	21	542	1,538	19	757	1,243	9	2,240	5,720	17
UTILITY	495	1,540	21	145	357	16	314	355	2	960	2,250	15%
TOTAL PROCESSING SERVICES (ROUNDED)	$1,845	$5,680	21%	$ 810	$2,125	17%	$1,580	$2,370	7%	$4,240	$10,180	16%
SOFTWARE PRODUCTS										625	1,915	21
PROFESSIONAL SERVICES										1,050	2,225	13
TOTAL COMPUTER SERVICES (ROUNDED)										$5,910	$14,320	16%

INPUT

V THE ESTABLISHMENT OF A SEPARATE ORGANIZATION TO PROVIDE "INFORMATION SERVICES"

V THE ESTABLISHMENT OF A SEPARATE ORGANIZATION TO PROVIDE "INFORMATION SERVICES"

A. AN "INFORMATION SERVICES GROUP"

- While it is unlikely IBM will enter the conventional computer services industry, it may form a separate information services group to provide "needed" services to its customers. Among these services would be:

  - Back up for major customer installations. An "insurance policy" against disaster.

  - Overflow and host services for small installations (distributed processing).

  - "Information services" of particular interest to IBM customers (technical publications and education).

  - Other necessary information services from proprietary data bases.

  - Secured services for its customers' private networks - control of encryption, access and accounting. A real time DP audit and security service.

  - Security data base services for customers who require it. A "bonded warehouse" for customers data.

- Strong arguments can be made that IBM customers require these services and they are not readily available elsewhere. This altruistic approach has numerous, obvious advantages for IBM not the least of which is that they are all high margin services.

- While this may not appear to be re-entry into conventional computer services (and therefore acceptable to both the Justice Department and IBM management), it will really constitute re-entry in the long run since "overflow," "back-up," and "lost services" are processing services regardless of how they are defined.

B. THE NEW PRODUCTS: HOST SERVICES, SECURITY, BACKUP

- The probability of these services being offered and their degree of acceptance in the marketplace is as follows based on combined ratings of 1 and 2 from the interviewees:

	General	Users
Host Services	10 (71%)	11 (58%)
Secured Data Base	6 (50%)	7 (39%)
Facilities Back-up	7 (54%)	12 (63%)

- Host services, which can probably be viewed as including proprietary data base service, was more popular with the general interviewees than with the users. This is understandable since the user sample consisted of large installations who could provide their own host services.

- The concept of secured data base service was not very well received - especially by users - but it probably is not a service which would have immediate appeal.

- The facilities back-up response is quite significant in that it appeals to users. When asked about general market acceptance of the concept, 7 users rated it "1" and 5 rated it "2." When asked for their personal rating, 10 rated it "1" and 1 rated it "2." It was by far the most enthusiastic response from an otherwise lethargic user reaction to the whole idea of IBM providing computer services.

- The probability of IBM entering the "computer services" business by providing some of these services is quite high - greater than 75% by 1982.

- The services offered are specifically related to the IBM customer base and compatibility is inherent in most of the services (H/F/S).

- SBS will make some of these services possible (specifically Facilities Back-up), but any carrier with comparable capability would suffice.

- The services to be provided will support and encourage IBM's version of distributed processing and its new hardware line.

C. MARKETING STRATEGY

- The Information Services Group will be spawned out of DPD but will also service General Business Group customers as well.

- Its services will be marketed by the salesmen from DPD and GBG as supplementary and complementary to their hardware sales. (The agent will get a commission for selling an "insurance policy").

- The amounts spent for the purchase of such services will be used to justify new hardware sales in certain cases. For example, if a user spends a certain amount for host or overflow services, he reaches the point where he can afford to upgrade or buy another Series/1 or 30XX.

- It will be an extremely profitable business even by IBM standards.

- It probably will not excite the Justice Department (any more than they are already excited); the FCC won't understand what they are doing; it will be hard to draw parallels with the 1956 consent decree; and even ADAPSO may not be too upset if it is handled discreetly and properly.

- It will not have any measurable impact on the computer services industry as it is now constituted (before 1982), and will create an entirely new market.

D. CHANGES IN PRODUCT IDENTIFICATION

- This new market will require some restructuring of our thinking concerning computer services.

  - RCS will become too broad a term if it is expanded to encompass most of the new services.

  - Facilities Management takes on a new connotation when applied to facilites back-up and secured data base.

  - Software becomes confused with hardware (if a user buys two black boxes: one with an APL interpreter and the other with a bill of materials processor, is he buying hardware or software or a combination or both?)

- The most likely services to be provided by 1982 would be facilities back-up and host services. These services will not have achieved sufficient penetration to change the 1982 forecast (Exhibit IV-11) appreciably.

VI THE ROLE OF SBS

VI THE ROLE OF SBS

A. WHAT IS SBS?

- A common carrier communication company formed by IBM, Aetna and Communications Satellite.
- Will provide a new communications service, complementing and competing with ATT's product, to U.S. large communications users.
  - Multiple locations within large network users (government or industry).
  - Users currently annually spending $10 million plus on communications.
- SBS has a 1982 market potential of $1.2 billion.
- The basic product offerings will ultimately include the following advantages of satellite communications:
  - High frequency channels.
  - Point to point transmission and network switching.
  - Variable data rates up to 6.0 million bits/second.
  - Security inherent in the system.

- Transmission of image, data and voice.

B. IDENTIFYING THE MARKET FOR SBS

- Assumptions:

  - Only the data which SBS has access to can be serviced by an SBS hybrid communications/processing network.

    . A batch service delivered by courier is not suitable for a communications carrier - not in character.

    . Having access to the data is having a SBS ground station connected directly to the site at which the data is maintained. The data does not have to be carried by SBS since computers will be interfaced to communications.

  - The initial business target for SBS is the top 150 companies/government agencies.

    . The average number of (communication important) sites in major companies ($1 billion or more revenue) is 25, and the average total communication (voice/data) expenses per site is $550,000/year. ($13.8 million)

    . Even if a ground station costs $400,000/year, (or using a factor of 40, $10,000/month - $120,000/year) it is not a limitation to these large sites. It is expected that this cost will drop during the next five years.

- Assumptions consider SBS ground stations will be located at 10 of the company's 25 major sites during the forecast period, and since these will be the largest sites, 50% of all data of the company will be accessible to SBS.

  . 100% penetration is not a logical forecast, thus the penetration of 10 out of 25. But it is logical to assume that the ten are the largest sites, thus the 50% of data calculation. (Note: this is one of the factors for the high/low analysis.)

- For the next 1,000 companies, 35% of data will be accessible to SBS.

C. POTENTIAL MARKET SIZE

- The SBS goal is the top 150 companies and operation will start mid 1980 and a reasonable amount of SBS access to the next 1,000 companies would not start until 1984. An approximate computation shows that the next 1,000 companies will not be a significant data access (in comparison to the top 150 companies) in the study forecast period. Thus, they were not included in the analysis.

- For the sales penetration of SBS, no regulatory or technical constraints were assumed.

  - If SBS is not in existence, this portion of the study has no significance. Thus, the goal is to explore the possibilities of a successful SBS.

- From previous INPUT interviews, a major communications network change takes 2-3 years for a user to analyze.

- From various discussions "in the field," SBS is working now with about 12 users on detailed studies of their needs.

- The system will become operational in two years and SBS is not hiring a very large sales force; thus, it is reasonable that their sales of new companies will gradually increase during the forecast period.

  - Thus, assume 5 companies as initial users in 1980. (See Exhibit VI-1.)

- In analyzing the top 150 companies, Exhibit VI-2 shows the percent of SBS penetration extending from .3% to 45% in 1987.

D. ACCELERATION FACTORS FOR SBS MARKET PENETRATION

- More investment in SBS by IBM and/or others.

- Greater than assumed acceptance of SBS.

- External factors increasing the need for SBS services such as:

Greater travel expenses	Telecommunications
Poor U.S. postal service performance	Electronic Mail
Greater office automation	Electronic Mail
Distributed processing	Data Communications

- Rapid technology improvements making SBS more dollar effective/ground stations cheaper.

- Rapid introduction of wideband fibre optics internal communicators systems making value to user of SBS features greater.

- VANs using SBS to supply services and thus increasing use of ground stations.

EXHIBIT VI-1

SBS CUSTOMER FORECAST

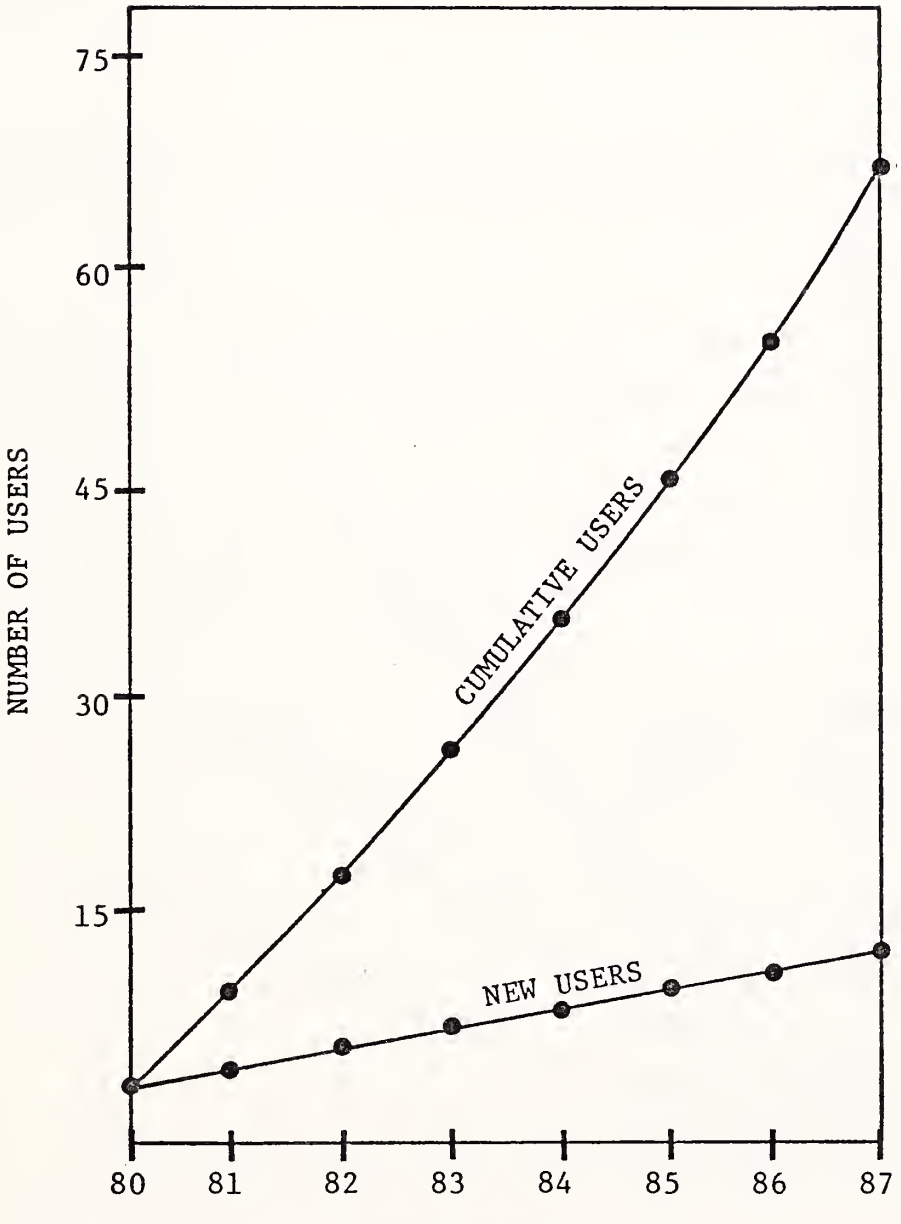
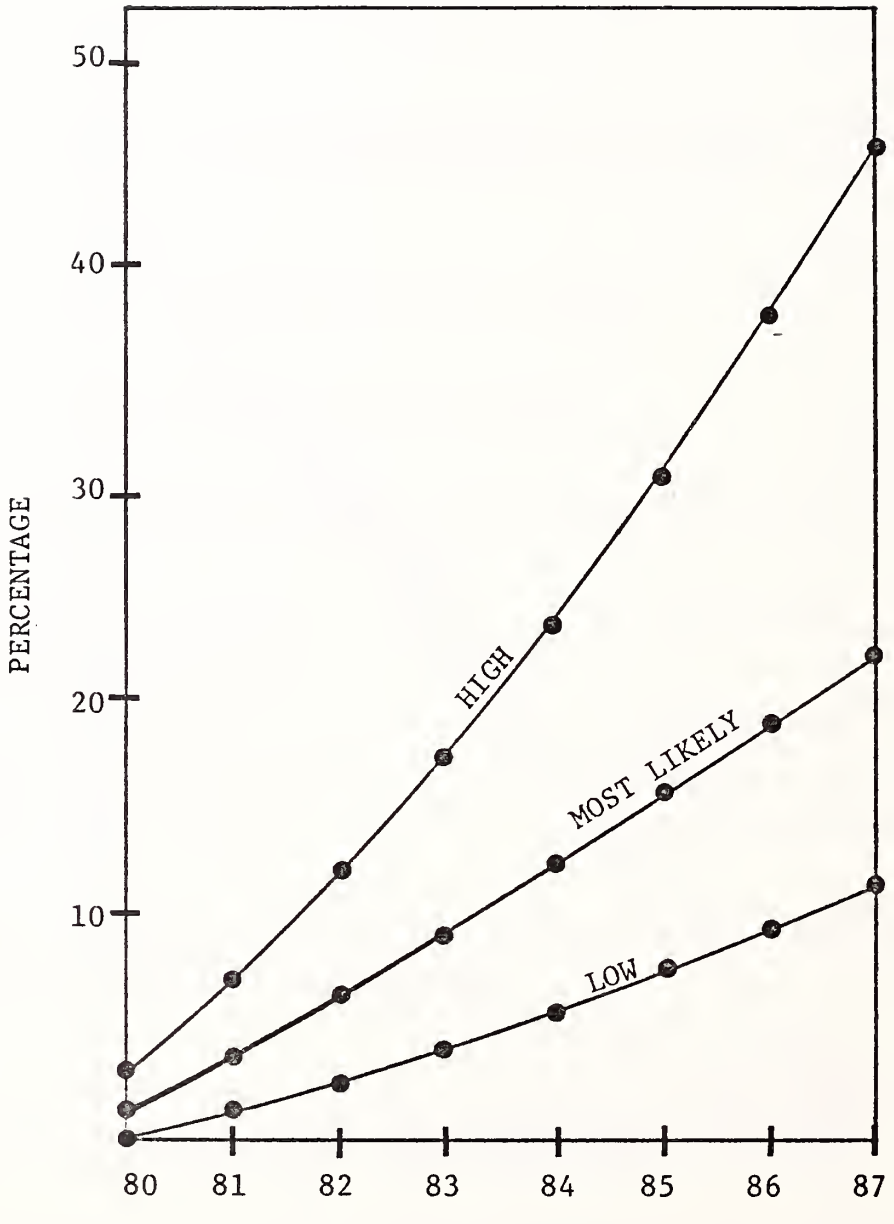


EXHIBIT VI-2

SBS PENETRATION OF THE TOP
150 U.S. COMPANIES
(PERCENTAGE OF COMMUNICATION
EXPENSE BUDGET)



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E. RETARDING FACTORS POSSIBLY AFFECTING SBS MARKET PENETRATION

- Technology problems.
- Competition by AT&T with wideband satellite or terrestrial (Fibreoptics Systems) providing the same services.
- Regulatory/Anti Trust.

F. PRODUCT OPPORTUNITIES FOR, AND CHARACTERISTICS OF SBS

- Private line communications service to large users and government agencies, deliveries by satellite to ground stations located on user premises.
  - The goal of SBS is to increase the productivity of the user companies by the appropriate use of electronic communications. The following type of improvement is mentioned.

Teleconferencing	-	Savings of travel cost, salary of personnel while traveling, hotels, etc.
Concept Selling	-	Intangible - the value to a company of having an expert available for 15 minutes in a meeting, which he would not otherwise attend. The value of more rapid decisions.

Image/Hard Copy Transmission	-	Savings of mail and messenger costs, regional printing.
	-	Intangible value of timely guaranteed distribution of information.
Data	-	Competition with AT&T private line service.
	-	Intangible savings of inventories, etc.
Voice	-	Competition with AT&T private line service.

- The following services are especially suitable for SBS assuming regulatory considerations are not an issue.

  - VAN

    . Compatibility between computer and office equipment.

    . Intra-company/inter-company "electronic mail."

    . Data/text store and forward.

  - HYBRID SERVICES

    . Data base maintenance and distribution.

    . Major calculation "number crunching."

G. HOW SBS AFFECTS IBM

- There will be no direct or indirect combined product and service marketing by IBM/SBS.
  - SBS is an arms length subsidiary and both the pressure of outside competitors watching the operation, and the participants attitude will insure separation.
- SBS will affect IBM because by its character SBS will change the communications techniques within industry.
  - External to the establishment (the conventional definition of communicators).
  - Internal to the establishment.
- These changes will occur because:
  - SBS will directly offer services and "concept selling" their use.
  - AT&T will respond to SBS with new AT&T offerings (both external/internal to the establishment).
  - Other vendors will devise VAN communications services and hardware to utilize the new SBS/AT&T offerings.
- With a new communications environment, IBM will:
  - Be able to reach more/different users and supply service to them.
  - Sell new communications oriented equipment to its present customers and its new users.

- Sell mass data base storage equipment/services (since the distribution task is much easier).

- Sell communications oriented equipment (including: terminals, electronic mail follow-up systems, communicating text editors, multi function facsimile (copiers) to VANs and computer service firms operating in a hybrid mode).

- The internal wideband communications option is of particular interest. Note: This scenario was discussed with a large number of sophisticated companies including AT&T, IBM, Xerox and was thought to be reasonable.

  - SBS supplies multi megahertz bandwidth to the user.

  - The users and equipment manufacturers (which could be IBM, ITT, AT&T, GTE, Xerox, etc.) install a communications control and fiberoptics buss system (similar to PDP-11 structure). This system uses a fiberoptics cable to reach all internal information equipment including:

    . Telephones.
    . Executive desk top CRTs (the ultimate user).
    . Word processing stations.
    . Video Display Unit (VDU) terminal
    . Central computers.
    . Central data/text store.
    . Conferencing center.
    . Electronic mail terminals.

  - This internal system makes it inexpensive to provide data/text/image terminals in the ultimate user. Note: With a $50-100 VDU it is far more expensive to cable in the equipment than to supply the equipment.

- This large communications equipment data base supplies a lot of communications traffic to SBS and service companies connected to SBS.

- AT&T sees the market and enters with fiberoptics or satellites. Note: The concept selling has been done by SBS.

- There now exists a base of information equipment throughout establishments.

- Someone must:

  . Supply,
  . organize,
  . control,
  . store/retrieve this information.
  . Supply the equipment.

  (These are opportunities for IBM.)

- The services business is thus affected by:

  . IBM supplying services to this unsophisticated "ultimate user."

  . Other services companies supplying services to the "ultimate user."

  . Both IBM and other services companies supplying services with/to the new equipment such as:

    Electronic mail terminals.
    Fast graphics output devices (instant plotters).
    Mini terminals for retrieval of information.
    Data/text/image data base stores.

- This market is so big for both equipment and services that there is no need for IBM/SBS to violate arms-length restrictions.

- IBM services will probably be directed towards account control and the extremely wide spectrum of equipment that IBM can produce.

- Some reasonable services for this scenario are:

  . Data/text/image central storage, distribution and maintenance of information.

  . Letter/message/memo/report generation, editing and multipoint distribution including "canned paragraphs, boilerplate."

  . Teleconferencing support including:

    Simultaneous access to stored information.
    Recording of key meeting decisions.
    Instant graphics retrieval.
    Facsimile so that diagrams can pass back and forth.

  . Ultimate user programs directed to specialities by industry sectors including: data, office, information storage and retrieval.

H. SOME CONCLUSIONS ON THE IBM/SBS RELATIONSHIP AND ITS MARKET EFFECT

- IBM will continue to offer user oriented services and if they create a VAN or hybrid communication capability, it will be for the servicing of their end user customers and not primarily for sale to the remote computing services industry - this function may be filled by SBS.

- Compatibility will not become an issue as long as SBS remains a raw communications carrier. When and if value added functions are supplied by SBS, the issue of compatibility will appear. (INPUT's VAN study reveals that "compatibility" is the most desired feature reported by user respondents.)

- IBM's use of SBS, on an arm's length basis, will be as a "marketing spear." SBS's presence allows IBM to take advantage of opportunities requiring rapid response in establishing very wide band communications channels.

- Overall, RCS vendors will benefit by the pressure of SBS, since they will be able to better service their selected market base and the market size will be greater.

VII IBM IN THE UNITED KINGDOM

VII IBM IN THE UNITED KINGDOM

A. IBM IS A MAJOR FACTOR IN THE MARKET

- In the European computer services marketplace, IBM is a major factor having a company ranking in the top three within each country.

- In England, IBM ranks second in computer services to Scicom which is owned by British Petroleum. B.O.C. Datasolve is the third largest company in the industry.

B. THE U.K. MARKET

- The estimated market size for computer services in the U.K. is shown in Exhibit VII-1.

  - Of the U.K. processing services market, IBM is estimated to have about 67%, or $18M, and planned to at least double by 1982.

- IBM, in the U.K., is emphasizing remote computing services with increased concentration on interactive timesharing.

EXHIBIT VII-1

COMPUTER SERVICES MARKET

IN THE U.K.

	1976	1982	AAGR
R.C.S.	$118.M(22%)	$332.M(26%)	23%
F.M.	27. (5%)	79. (6%)	24%
BATCH PROCESSING	150. (28%)	264. (21%)	12%
	$295M(55%)	$675.M(53%)	18%
PROFESSIONAL SERVICES & SOFTWARE	241 (45%)	605 (47%)	20%
COMPUTING SERVICES:	$536.M	$1280.M	19%

- A large computer center has been established in Warwick with 6 370/168s installed, 60% of which is for offering RCS by mid 1978 throughout the U.K. and the remaining capacity of 40% for machine sale customer support.

- At the same time, regional data centers providing batch processing services are being closed down.

- Communications policy is to be oriented around SNA and SDLC.

- Within the U.K. it is believed that such a large investment (Warwick) on the part of IBM implies more than a plan on merely a national level and probably will involve a least European strategic developments.

C. PRODUCT SUPPORT BY IBM

- There appears to be a substantial applications software gap within the present capability of IBM and their computer services strategy. Two possible alternatives are:

  - SNA with central computing facilities and substantial system software are adequate for selling to the targeted market while relying upon outside software houses to supply the bulk of applications programs.

  - IBM to fill their applications software gap by redefining present and developing new programs and packages.

  - A combination of the above - Using the Series/1 philosophy of encouraging the outside development of applications package plus offering products developed by GSD for the systems 3, 32, and 7.

D. IBM's ATTITUDE IN THE U.K.

- IBM's (U.K.) recent resignation from Computing Services Association (CSA) after paying their annual dies ($1,000) indicates:

  - A sudden change in philosophy concerning the support of local professional organizations.

  - A stronger image of "isolation."

  - Potentially, a withdrawal of support to the industry on a national basis.

  - The anticipation of more direct competition with computing services vendors using IBM equipment.

- A compilation of interviews, discussions, and other general intelligence from our study of the U.K. resulted in the following comments:

  - IBM assumes they will lose (in part) the suit levied by the Justice Department.

  - There will be no forced split-up of IBM before 1982.

  - S.B.S. will continue to operate on an arm's length basis from IBM.

  - The U.S. trails U.K. as far as patterns of computer services marketing concepts are concerned.

  - Processing services sales in the U.K. will be under the auspices of DPD with a possible ultimate relationship towards OPD which is proud of being the "low overhead operation."

- Over the last three months, IBM recruited a number of senior personnel throughout the U.K.

- IBM's greatest success in providing applications oriented systems involve the manufacturing industry sector.

E. ANALYSIS OF COMPETITOR's VIEWS OF IBM (U.K.)

- Replies to the "U.K. Services Vendor Questionnaire" follow:

  - IBM developed specialized processing services application packages for both the U.K. and Europe.

  - Applications involving MIS, RCS, project management, and information retrieval have been chosen because of the required high machine usage and low development labor content.

  - IBM has not developed a processing services marketing thrust towards a specific industry.

  - General business processing services are the most popular type marketed by IBM in the U.K.

  - IBM develops services products for the U.K. in Warwick, Craydon and Havant. They do not offer "package deals" of hardware and software.

  - In the U.K., IBM has used processing services sales as a market penetrator for the ultimate sale of hardware.

  - When selling services, IBM emphasizes:

    . Portability.

. Compatibility.
. Prepackaging.
. Data Base Management Systems (particularly).

- Respondents see an ultimate merger of IBM-U.K.'s services and distributed processing strategy.

- IBM has a reputation in the U.K. for integrity, technical strength, consistant policies, and high prices.

- Some of IBM's reported weaknesses in the U.K. are:

  . Department of Industry's policy of supporting ICL.
  . Unpopular with the education/academic market, "opinion formers," and trade unions.

- IBM's new services products market acceptance would be:

  . Strongest: host services for distributed processing and electronic switching.
  . Weakest: Major facilities backup and inter-national network.

- Office automation, banking and retailing are the market segments in the U.K. finding IBM's computer services offerings most acceptable.

- Smaller computer services companies in the U.K. are expected to merge, be acquired or disappear during the next five years.

- IBM is expected to enter the U.S. remote computing services marketplace by 1982.

VIII RESULTS OF THE SURVEY

VIII RESULTS OF THE SURVEY

A. ANALYSIS OF USERS

1. OVERVIEW

- The tendency among the vast majority of the users interviewed was to centralize control as well as planning and budgeting for EDP resources in one location.

  - Standard Oil of California, which five years ago had 24 separate DP centers (each managed by a different team), has been centralizing its facilities and is now down to 6 DP centers and 6 management teams. The process of centralization will continue into 1978 when the number of DP centers will be reduced to 5.

  - Despite its two major centers (one in San Francisco, the other in Los Angeles), Bank of America has centralized its EDP planning and control functions in San Francisco.

  - North American Rockwell has a central planning and equipment purchasing function in Seal Beach, California.

  - The Chase Manhatten Bank, which purchases $3.5 million in EDP services from computer services vendors, has a centralized purchasing and control function to oversee the purchasing of services and equipment.

- None of the users interviewed envisioned IBM being able to provide computer services at a lower cost than could be provided with dedicated internal resources. Nor did users believe that IBM had a burning desire to enter the computer processing service busienss - some of the reasons cited were:

  - IBM can't get the same leverage in services it gets in products.

  - IBM doesn't know "our business."

  - Our operating costs are very low - we use students as operators and programmers and there is no way IBM can compete.

- Most DP managers were planning to bring the "plain vanilla" processing in-house and only leave the items requiring infrequently used special software to the C.S. vendor.

- One user envisioned that the only way IBM could offer services at a lower cost (the only reason he would consider IBM) would be for them to build a computer 200 times more powerful than the biggest systems currently available and be willing to provide remote services on the system.

- A major need expressed by most large users was for lower cost flexible (voice, Data Fax, code and speed conversion) communications facilities.

- None of the users became excited at the prospect of IBM's re-entry into the processing services market. Some typical comments were:

  - "They got rid of one loser to CDC - why get another?"

  - "Don't see what they would contribute."

  - "IBM wouldn't get any of my business on its name alone - they'd be treated like everyone else - if what they had made business sense, we'd buy it."

- Most of the respondents indicated that some coupling between SBS and IBM, especially if IBM provided the interface, would be desirable.

  - "This would help account control expense and finger pointing."

- None of the interviewed users indicated a willingness to pay any more for processing services provided by IBM unless there was some definite value warranting the extra charge.

- Although most users preferred a single centralized sales/purchasing point to avoid confusion, some indicated that a company oriented to services is likely to have more knowledgeable sales reps on services than a company that was "all things to all men."

2. ORGANIZATION OF DATA PROCESSING

- Nine of twenty respondents reported that their companies maintained a completely centralized control of EDP with the balance being partially centralized.

- There appears to be a trend towards centralized control of EDP emphasized by:

  - The plans involving distributed processing which demands a central authority.

  - Corporate controlled EDP with a de-emphasis on local management decision.

- All respondents were users of multiple IBM 370 systems with the following breakdown by maximum system size:

Number of Respondents	Largest 370 System Used By Respondent
14	370/168
1	370/165
3	370/158
1	370/155
1	370/148
20	

3. EDP BUDGETS AND SERVICES

- Respondents reported an 8-10% annual growth in total EDP budgeted expenditures for 1975, 1976, and 1977. (See exhibit VIII-1.)

- Thirteen of the seventeen respondents replying report spending less than 1.5% of their 1977 EDP budget on processing services. For 1978, two expect to increase the percentage of processing services expenditures, and seven will decrease. (See Exhibit VIII-2.)

- These anticipated reductions in processing services expenses are planned despite respondents stating their high degree of satisfaction with outside computer services.

  - Sixteen (80%) reported "high" with the balance having a "medium" level of satisfaction.

- When asked if there were any services that they would want and were not being offered, little constructive information was forthcoming from respondents.

- Some of the more valuable suggestions for expansion of services involved networks, VANs and other communications oriented services.

EXHIBIT VIII-1

RESPONDENT USERS' EDP BUDGET

GROWTH (PERCENTAGE)

PERIOD:	1975-6	1976-7
NUMBER OF RESPONDENTS:	14	15
GROWTH RATES:		
AVERAGE:	8.%	10.%
HIGHEST:	15.%	20.%
LOWEST:	-5.%	-3.%

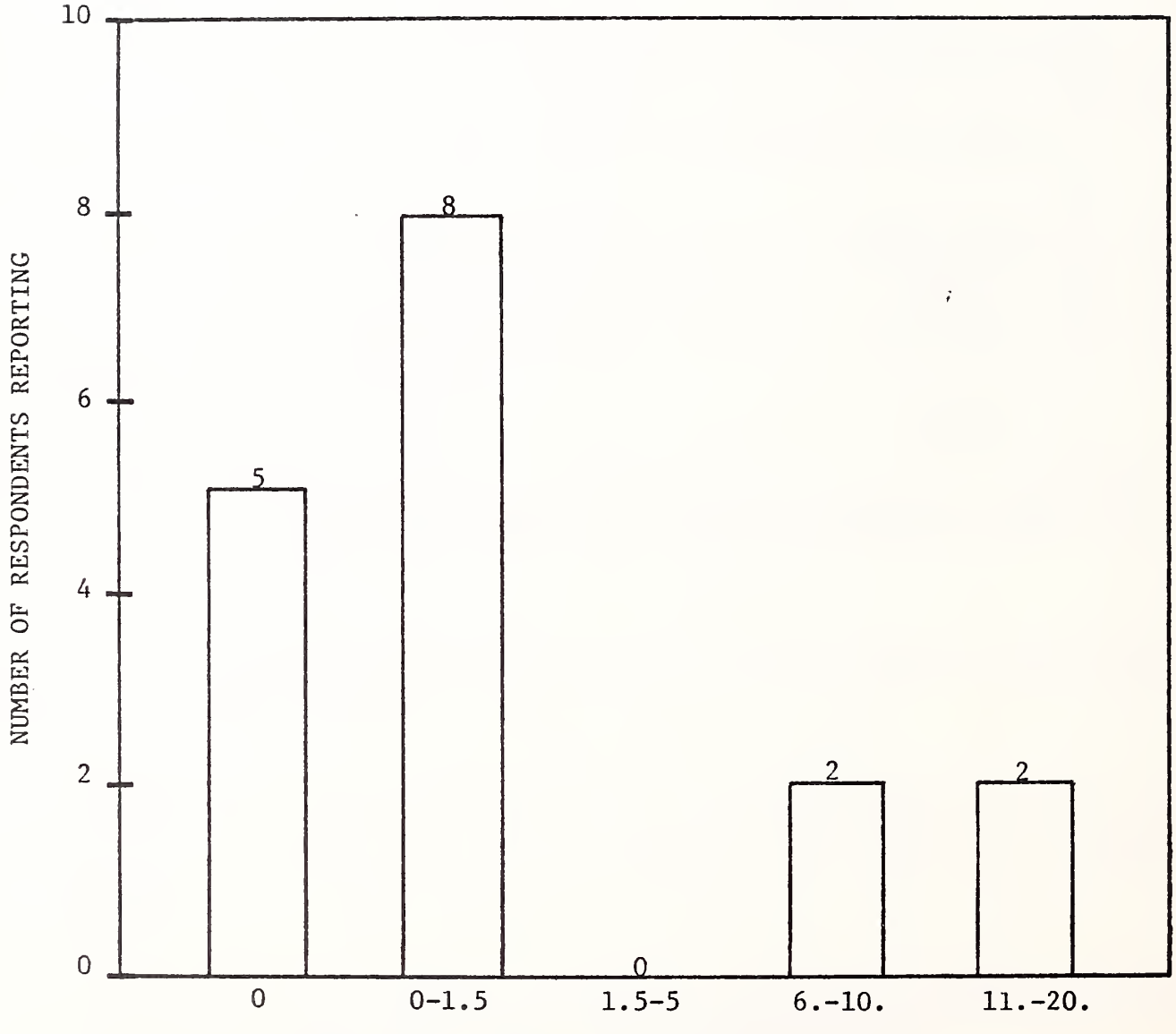
EXHIBIT VIII-2

RESPONDENTS' EXPENDITURES

FOR PROCESSING SERVICES AS A PERCENTAGE

OF THEIR TOTAL EDP BUDGET

FOR 1977



4. USER ATTITUDES TOWARDS IBM RE-ENTERING PROCESSING SERVICES

- Respondents were very apathetic about whether they wanted IBM to re-enter the processing services business, with 85% replying either negatively or "don't care." (See Exhibit VIII-3.)

- The few positive comments from users concentrated on IBM's presence resulting in improved service for the user, increased competition within, and stability for the industry.

- Some typical comments from neutral respondents or those not wanting market re-entry by IBM were:

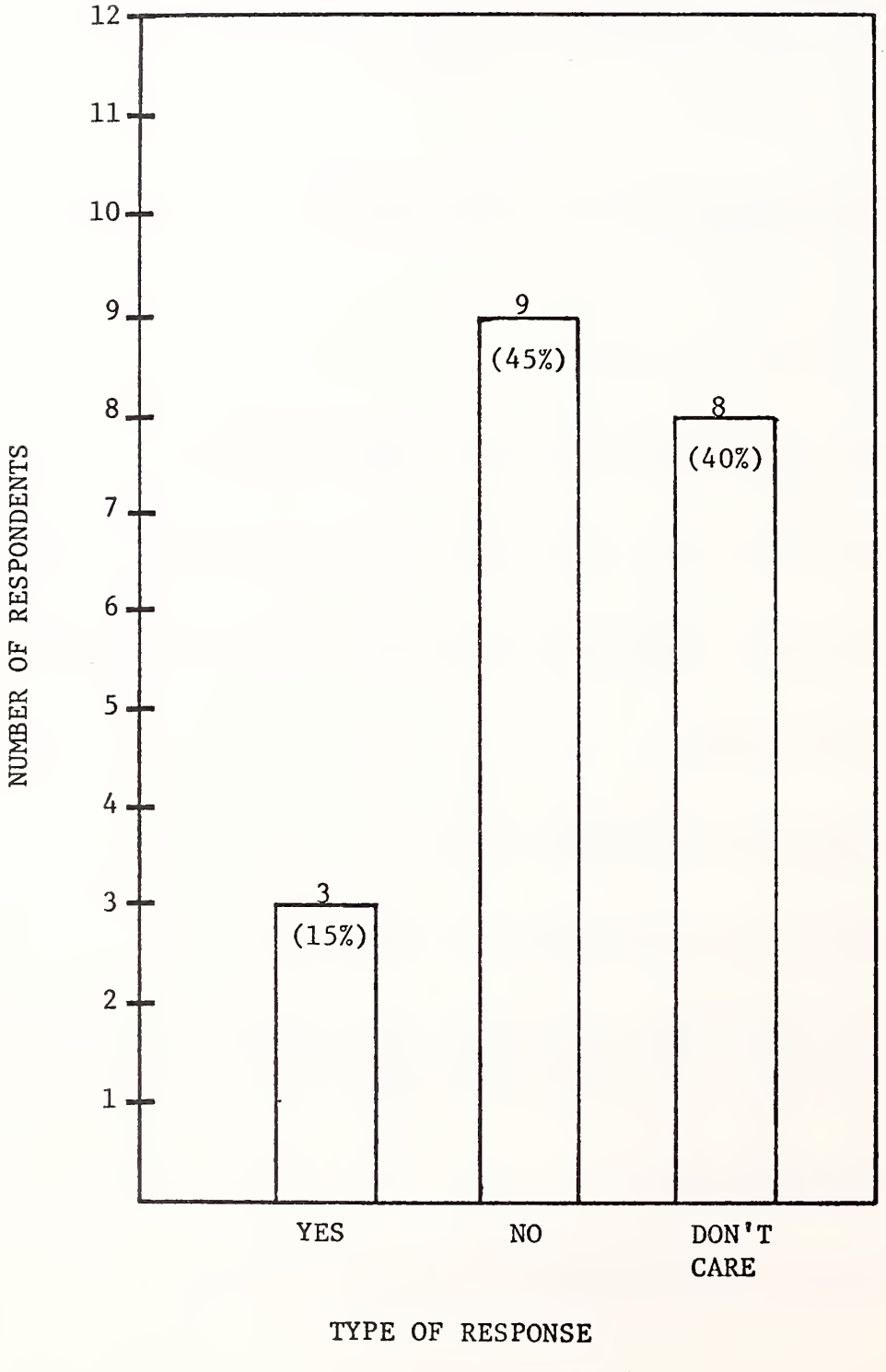
  - "No difference to us."
  - "Don't think they (IBM) would contribute anything."
  - "Couldn't care less - lots of good service companies around."
  - "Don't want IBM selling both ends." (Hardware and software)
  - "IBM too big."
  - "IBM software not often the best."
  - "IBM never provided a service we could use."

- Respondents really did not believe that IBM could provide a required service not yet available. Some concerns involving IBM's offering any unique products:

  - Lack of flexability.
  - Interference by the Justice Department.

EXHIBIT VIII-3

USER RESPONDENTS' DESIRES FOR IBM
RE-ENTERING THE PROCESSING SERVICES
MARKET AS A VENDOR



- Over 60% of user interviewees believed the most important reasons for the future consideration of IBM as a processing services vendor are (see Exhibit VIII-4):

  - Easier internal planning with hardware and software from same vendor.

  - Centralized control.

- Other factors of importance not listed on our questionnaire and reported by respondents included:

  - Establishing a firm long term relationship.

  - Distributed processing and networking considerations.

- Most users interviewed stated that if IBM entered the processing services business, they would evaluate them as any other potential vendor. When asked their opinions as to IBM's ability to develop and market products better than other processing vendors, some typical comments were:

  - "Unimpressed with applications package ability."

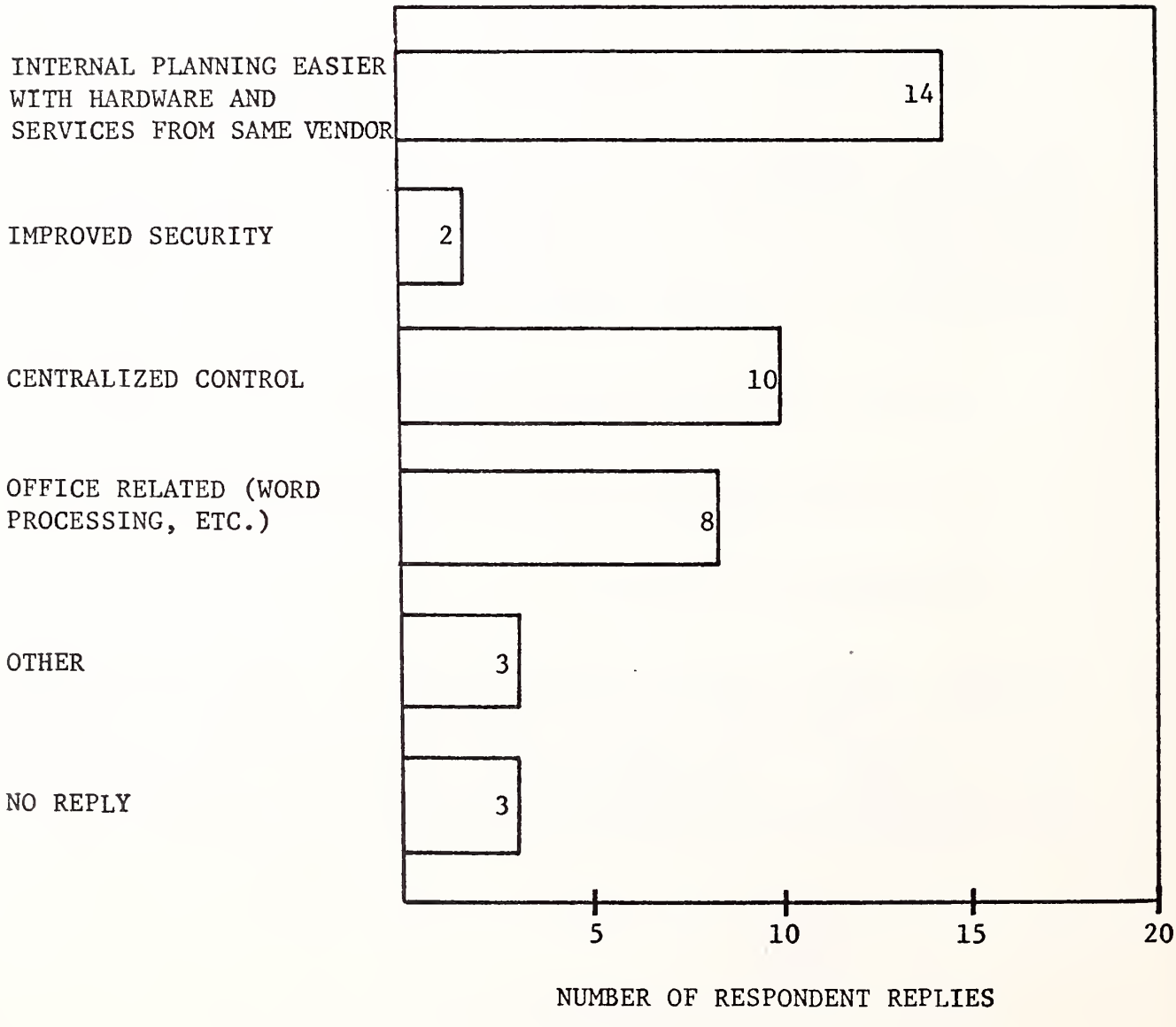
  - "Financial planning services development likely."

  - "Banking or manufacturing."

- Generally, users felt that IBM would not develop or market any particularly unique or effective industry oriented applications packages for the processing services industry. Most believed that efforts would be directed towards general business, financial planning, and manufacturing applications.

EXHIBIT VIII-4

RESPONDENTS' RATING REASONS OF IMPORTANCE (1 or 2 ON SCALE OF 5) FOR CONSIDERING IBM AS A FUTURE SUPPLIER OF PROCESSING SERVICES



- When asked which mode of processing services IBM would most likely supply if they entered the industry, respondents emphasized (only 15% reported a low probability) remote computing services. (See Exhibit VIII-5.) As shown in Exhibit VIII-6, for types of service, general business, application specialty, and text/graphics were selected in that order.

5. NEW SERVICES REQUIREMENTS AS PERCEIVED BY THE USER

- As shown in Exhibit VIII-7, respondents' rankings of potentially new services overwhelmingly selected "Major Facilities Back-up (Data and Processing)" to be well accepted in the marketplace. "Secured Data Base (including Data Capture and Polling)" ran a distant second place.

- The users interviewed believe banking and education to be the market segments finding IBM's computer service offerings of most interest (Exhibit VIII-8) with the consumer and medical markets doing poorest. Nevertheless, there were some respondents remarks indicating that IBM must soon get a product into the home marketplace.

6. USER ATTITUDES TOWARD IBM/SBS

- Interviewees believed (85%) that IBM creating a network in conjunction with SBS would increase their attraction as a services vendor.

  - Providing a wide band facility would help balance loads.

  - Easier to service greatly dispersed, multi-location organizations.

  - Provide the much needed nationwide network.

  - Would become a more knowledgeable supplier than ATT.

  - The "one stop shopping" advantage.

EXHIBIT VIII-5

USER RESPONDENTS' ATTITUDES
TOWARDS THE PROBABILITIES OF
IBM SUPPLYING MODES OF
PROCESSING SERVICES

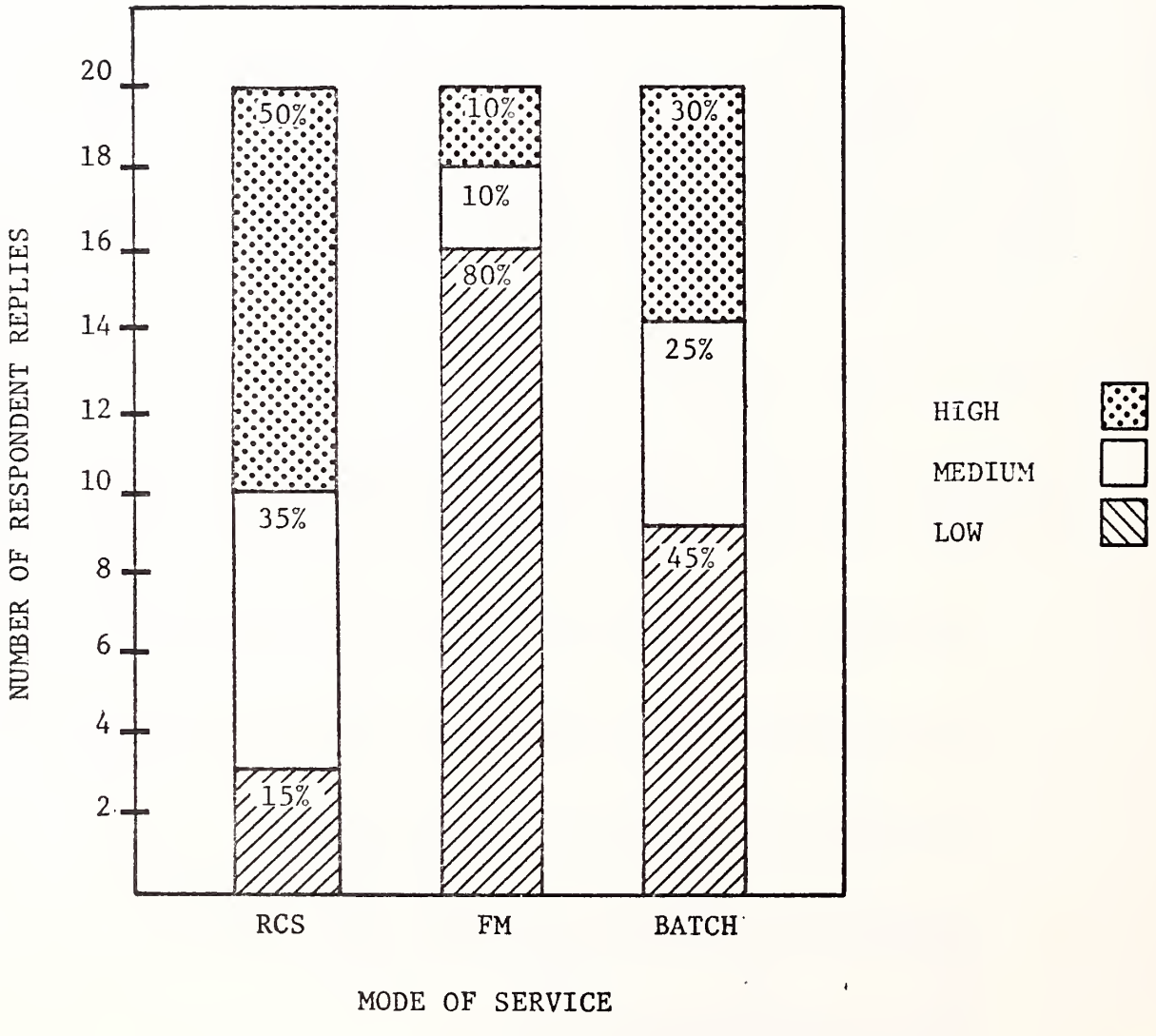


EXHIBIT VIII-6

USER RESPONDENTS' ATTITUDES TOWARDS
THE PROBABILITIES OF IBM SUPPLYING
SPECIFIC TYPES OF PROCESSING SERVICES

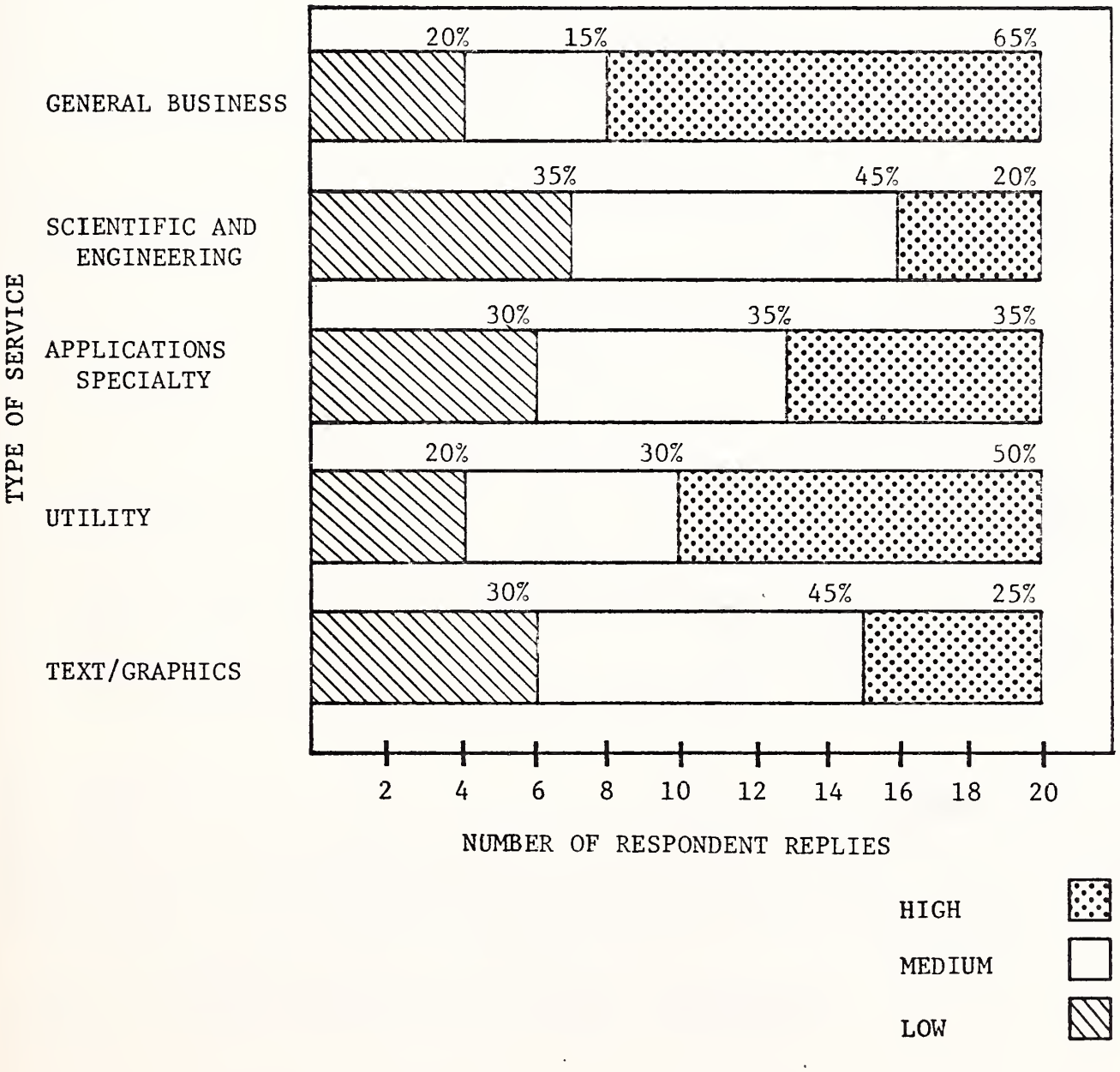


EXHIBIT VIII-7

RESPONDENTS' RANKING (FIRST OR SECOND) OF FACTORS OF IMPORTANCE RATED "ONE" (ON SCALE OF FIVE) FOR NEW SERVICE POTENTIALS

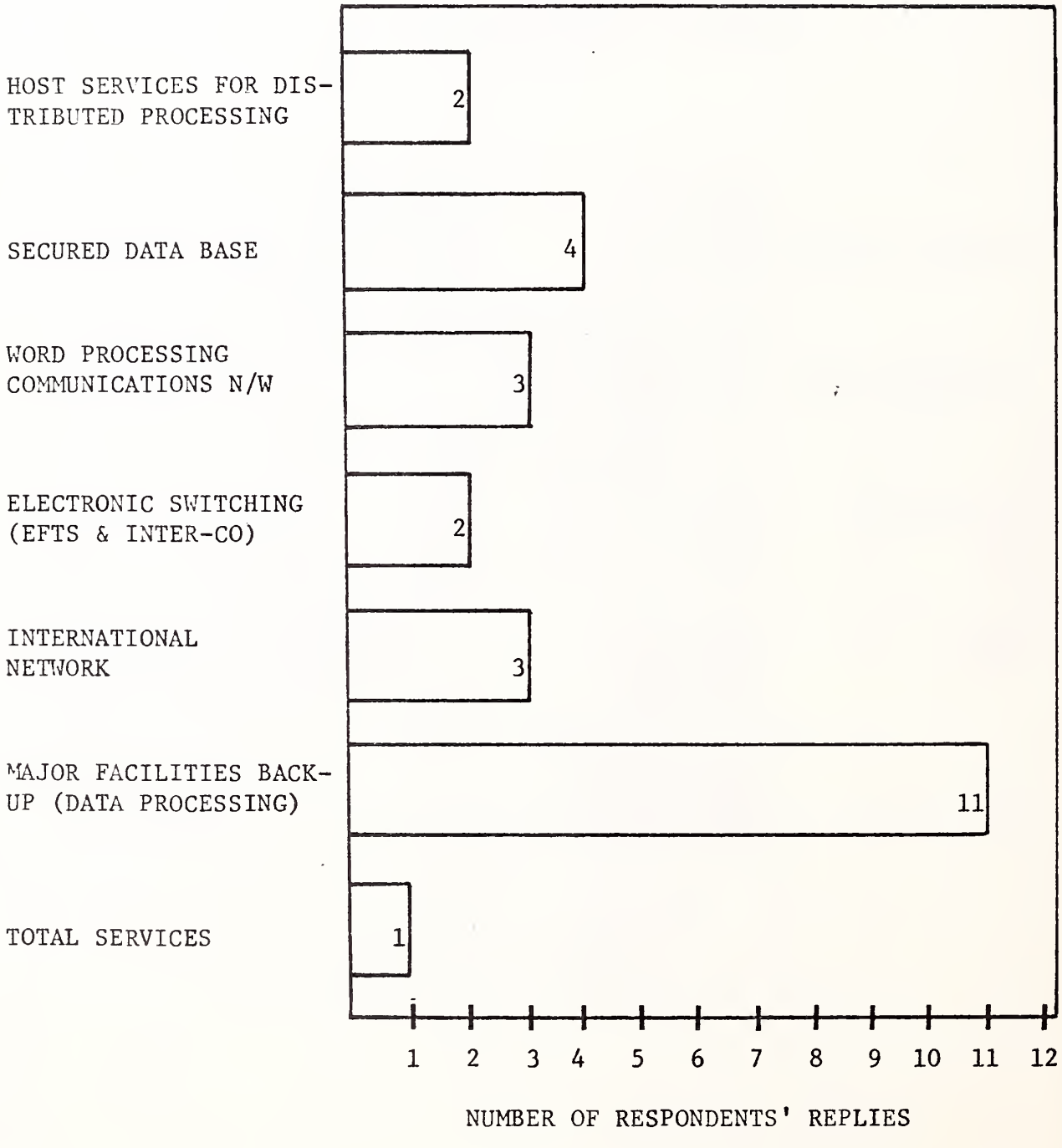
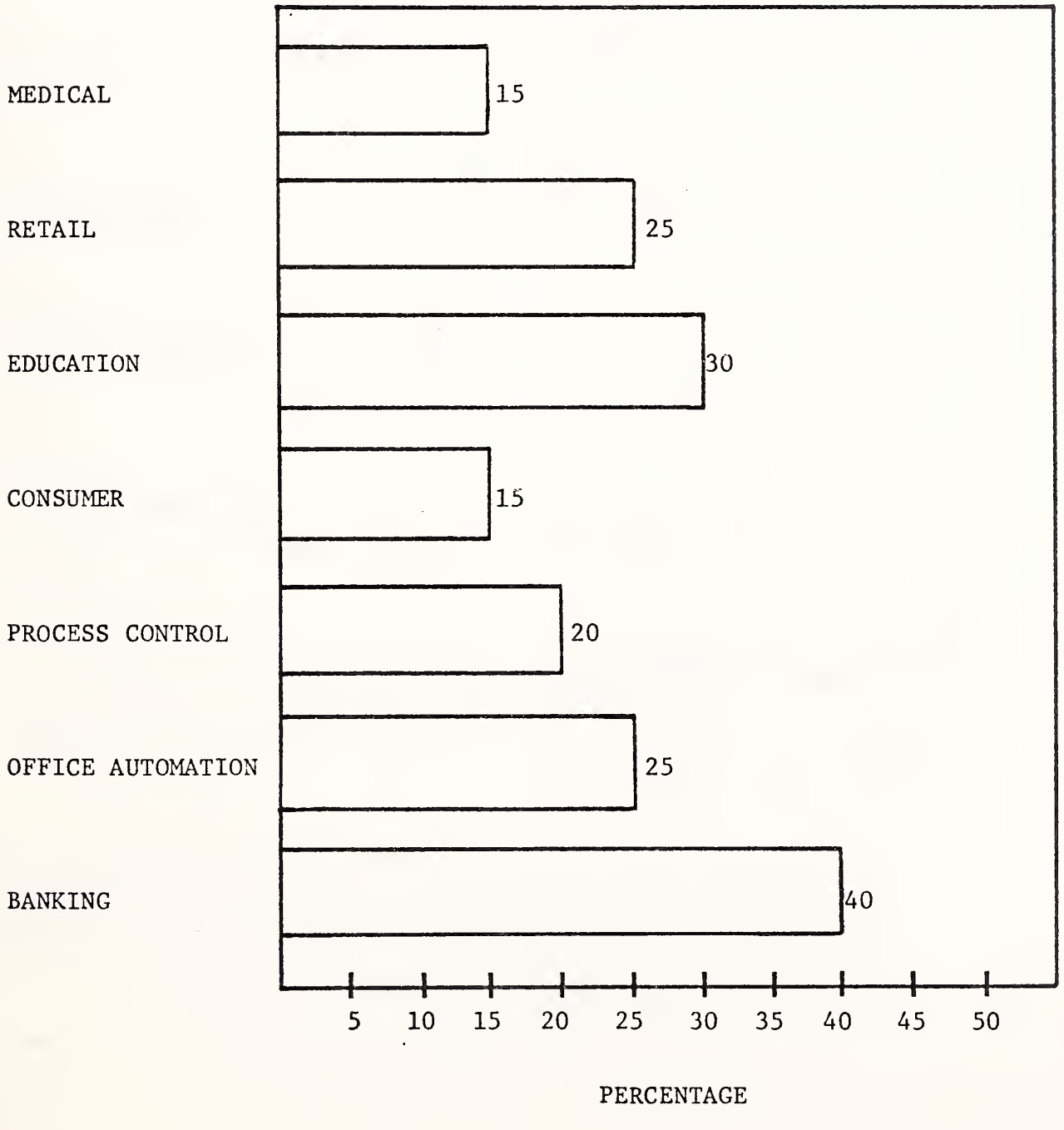


EXHIBIT VIII-8

PERCENTAGE OF RESPONDENTS PERCEIVING THE FOLLOWING MARKET SEGMENTS OF IBM'S COMPUTER SERVICE OFFERINGS TO BE OF TOP INTEREST (ON SCALE OF ONE TO FIVE)



- Of the users interviewed, 90% are developing some type of a data base (eg: personnel, inventory, financial, etc.).

- Over half of the respondents report that data bases consume from 20-50% of available storage and that they would permit (with qualifications) data bases going outside the company.

7. USER ATTITUDES TOWARDS SELECTING A SERVICES VENDOR AND PLANNING FOR CONVERSION

- Only 3 of 20 user respondents admitted they would pay IBM more than their present vendor for equivalent service.

- Most respondent comments involving the evaluating and qualifying IBM as a services vendor concentrated around the traditional price/performance issue.

- As expected, Exhibit VIII-9 shows the respondents are rating "reliability" and "maintenance capability" as the most important factors to consider when selecting a processing services vendor.

  - Of more significance is the attitude of the users interviewed that there is little significance in a services vendor also marketing hardware.

- When respondents ranked each of the factors they individually rated "one" (of five). Exhibit VIII-10 indicates a much stronger trend towards the perceived importance of "reliability," and a minimum interest in "price," "image," and "hardware marketing capability."

  - The reported lack of interest as to whether a processing services vendor also markets hardware is of more significance than downplay of importance of "price" and "image," which always act as potentially strong negatives during the vendor selection process.

EXHIBIT VIII-9

RESPONDENTS' RATING FACTORS OF
IMPORTANCE (1 or 2 ON SCALE OF 5)
IN SELECTING A PROCESSING SERVICES VENDOR

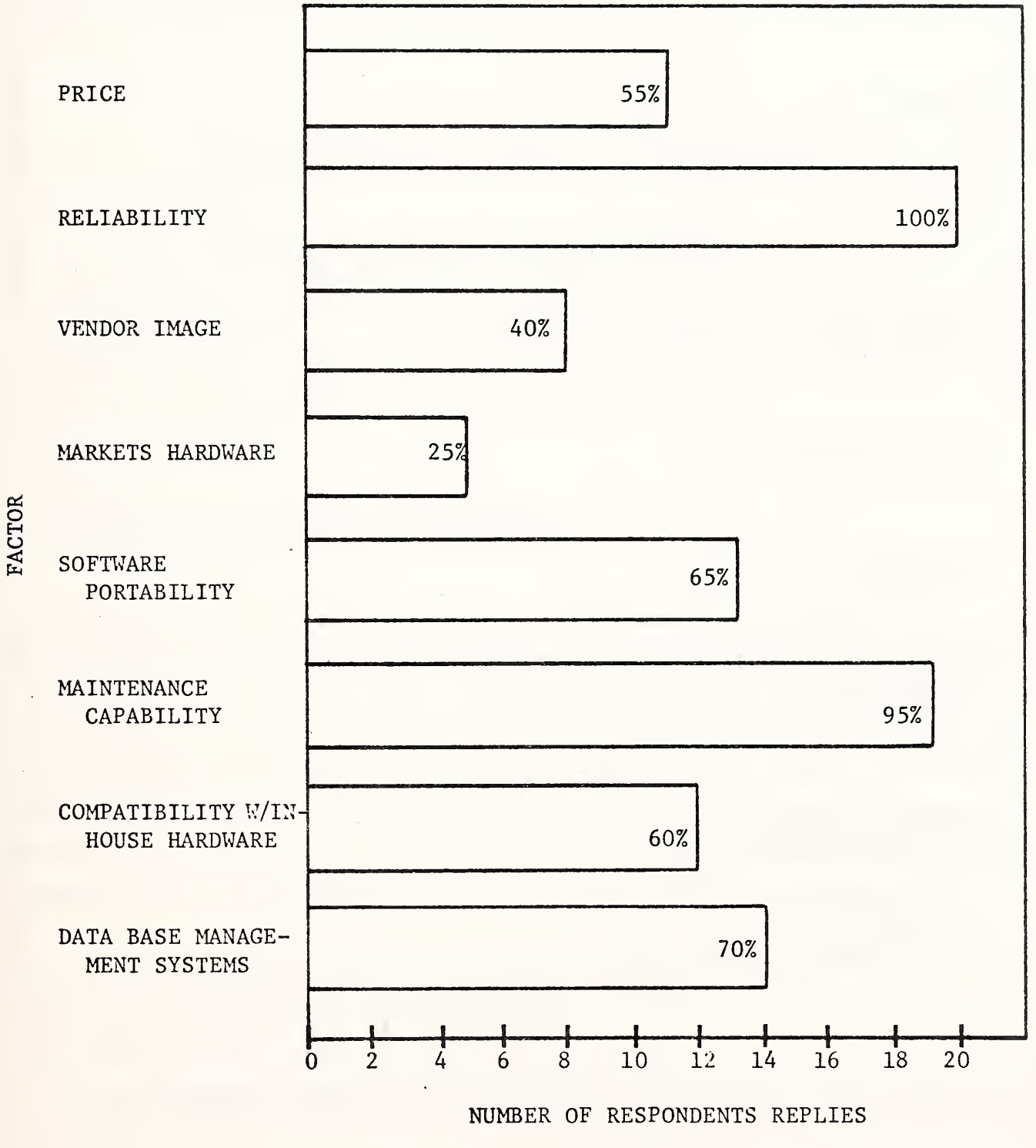
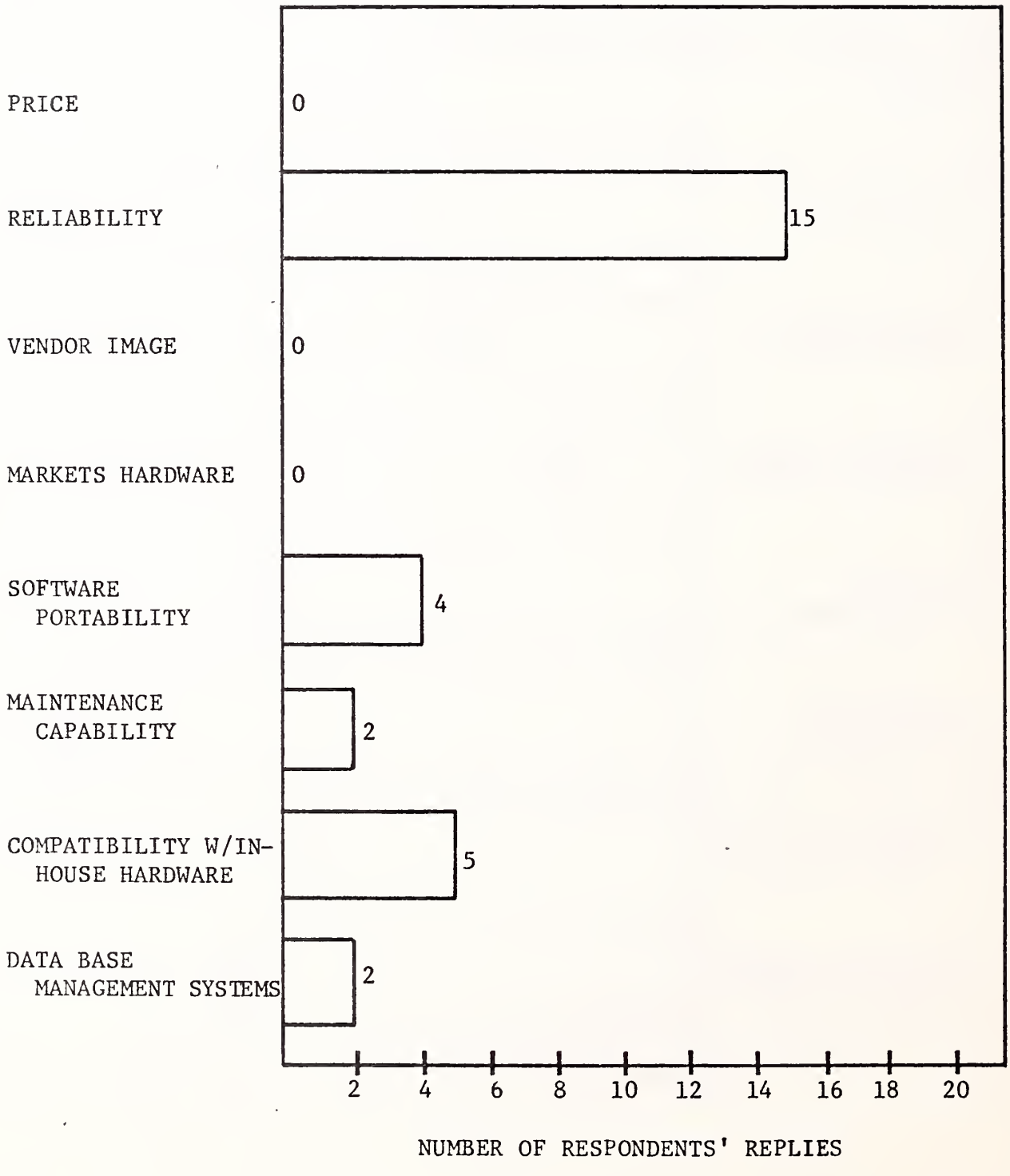


EXHIBIT VIII-10

RESPONDENTS' RANKING (FIRST OF SECOND) OF FACTORS OF IMPORTANCE
RATED "ONE" (ON SCALE OF FIVE) IN SELECTING
A PROCESSING SERVICES VENDOR



- As shown in Exhibit VIII-11, respondents really had little interest in whether or not IBM re-enters the computer services business.

  - Sixty-five percent and 85% respectively, did not offer a response when asked if they would purchase services from an IBM subsidiary created for that purpose or if they would not purchase computer services from IBM.

  - The only active response was the reported desire to purchase all data processing products and services from the same IBM sales force (75% of the respondents) rather than from separate IBM divisions.

- As shown in Exhibit VIII-12, over 65% of users believe compatibility and portability issues have a high importance level (rated 1 or 2 out of 5) when planning for conversion. All (100%) reported that software compatibility was of critical importance.

B. ANALYSIS OF GENERAL INTERVIEWS

The general interviews were conducted among a diverse population who had one thing in common - their interest in IBM. Therefore, the interviews took different form depending on the individuals. On some questions, statistically significant information was not obtained. In other cases, interviews were conducted which only served to refine specific areas of interest (the IBM Major Account Expansion Program) or general reactions (EIA, FCC). These interviews were not recorded for tabulation but provided valuable input to the research. (See Appendix I for the interview plan.)

1. RE-ENTRY OF IBM INTO PROCESSING SERVICES

- When will IBM re-enter the computer services market place? (See Exhibit VIII-13.)

EXHIBIT VIII-11

RESPONDENTS' PREFERRED RELATIONSHIP

WHEN PURCHASING SERVICES FROM IBM

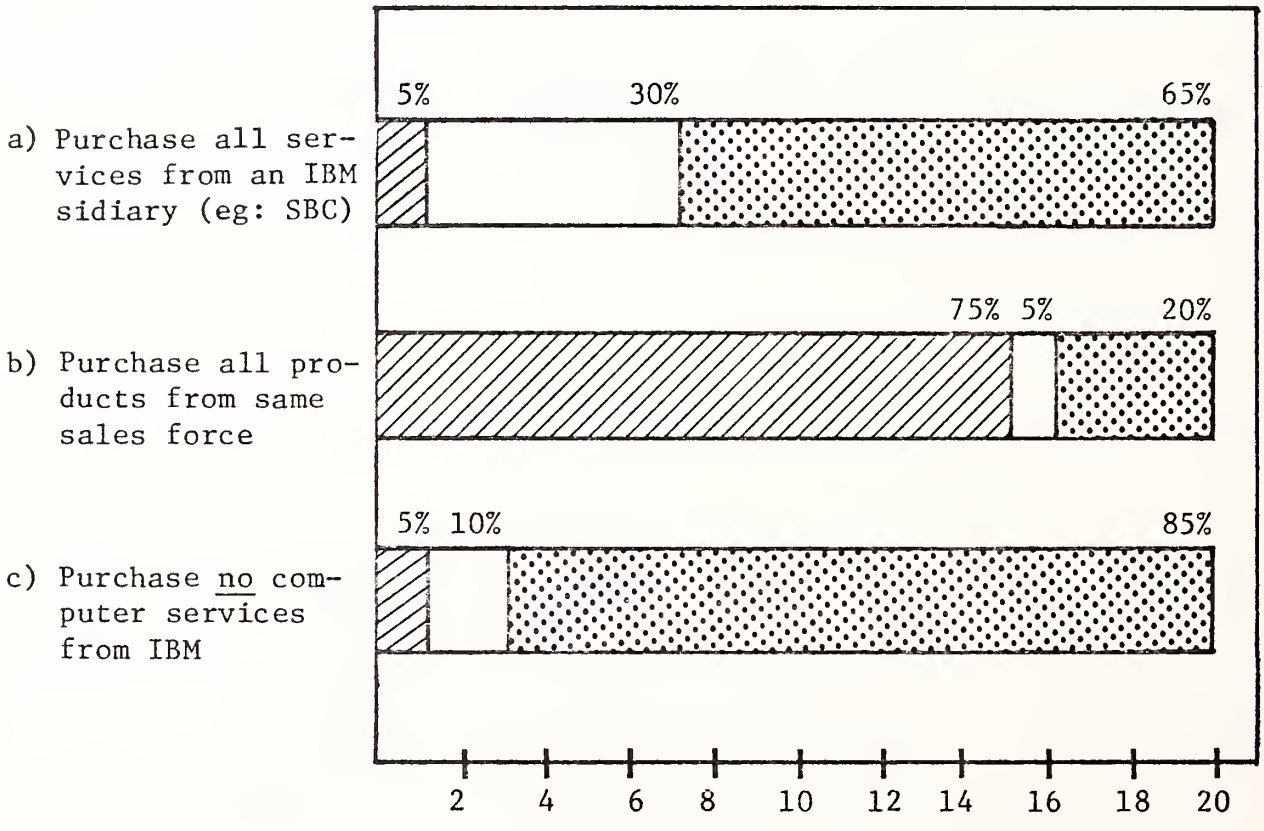


EXHIBIT VIII-12

USER RESPONDENTS' RATINGS OF IMPORTANCE

CONCERNING COMPATIBILITY AND PORTABILITY

FACTORS WHEN PLANNING FOR CONVERSION

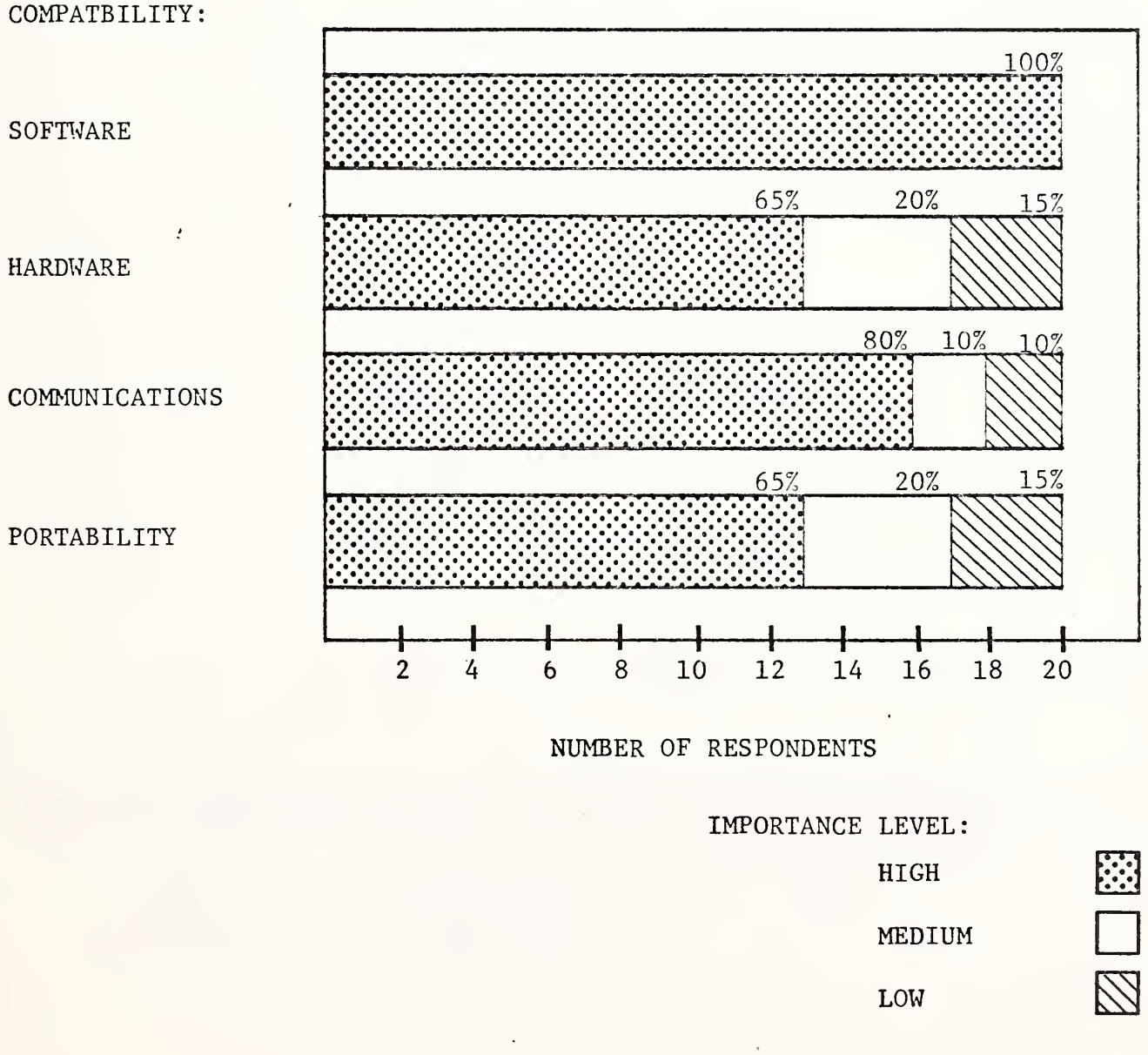
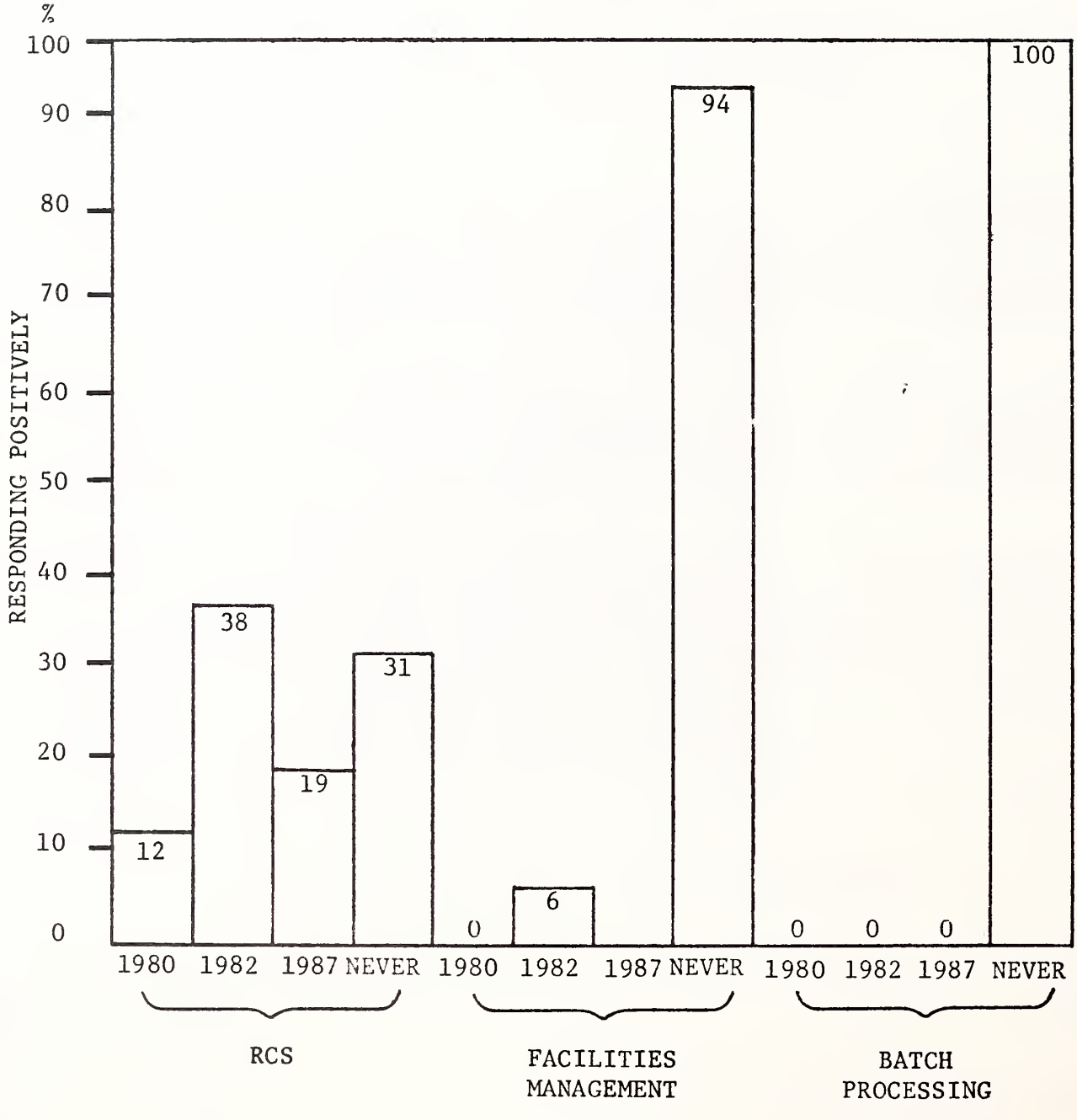


EXHIBIT VIII-13

GENERAL INTERVIEWEES' COMMENTS AS TO:

"WHEN WILL IBM ENTER THE FOLLOWING MAKRETS?"



- No respondent thought IBM would enter the processing services market with batch services. The primary reason was because batch processing was considered to be "old technology" and "obsolete."

- Only one respondent felt IBM would re-enter computer services with facilities management. The reasons given were "people problems" and "not their kind of business."

- The opinion concerning RCS was not entirely clear. Over 30% felt IBM would never re-enter - the reasons varied.

  . IBM is hardware oriented.

  . IBM is under the consent decree . . . . "Frank Carey doesn't want to go to jail."

  . IBM was never successful - carries a "poor cousin" label in IBM.

  . Legal complications.

- Only 2 respondents felt there was a strong possibility of IBM re-entering before 1982.

- What type of processing will IBM concentrate on if they re-enter? (See Exhibit VIII-14.)

  - General business and specialty applications were ranked highest and they were about equal.

  - Scientific and engineering ranked very low - probably for historic reasons. The one respondent who ranked it first was associated with the development of STRETCH (7030) when he was in IBM.

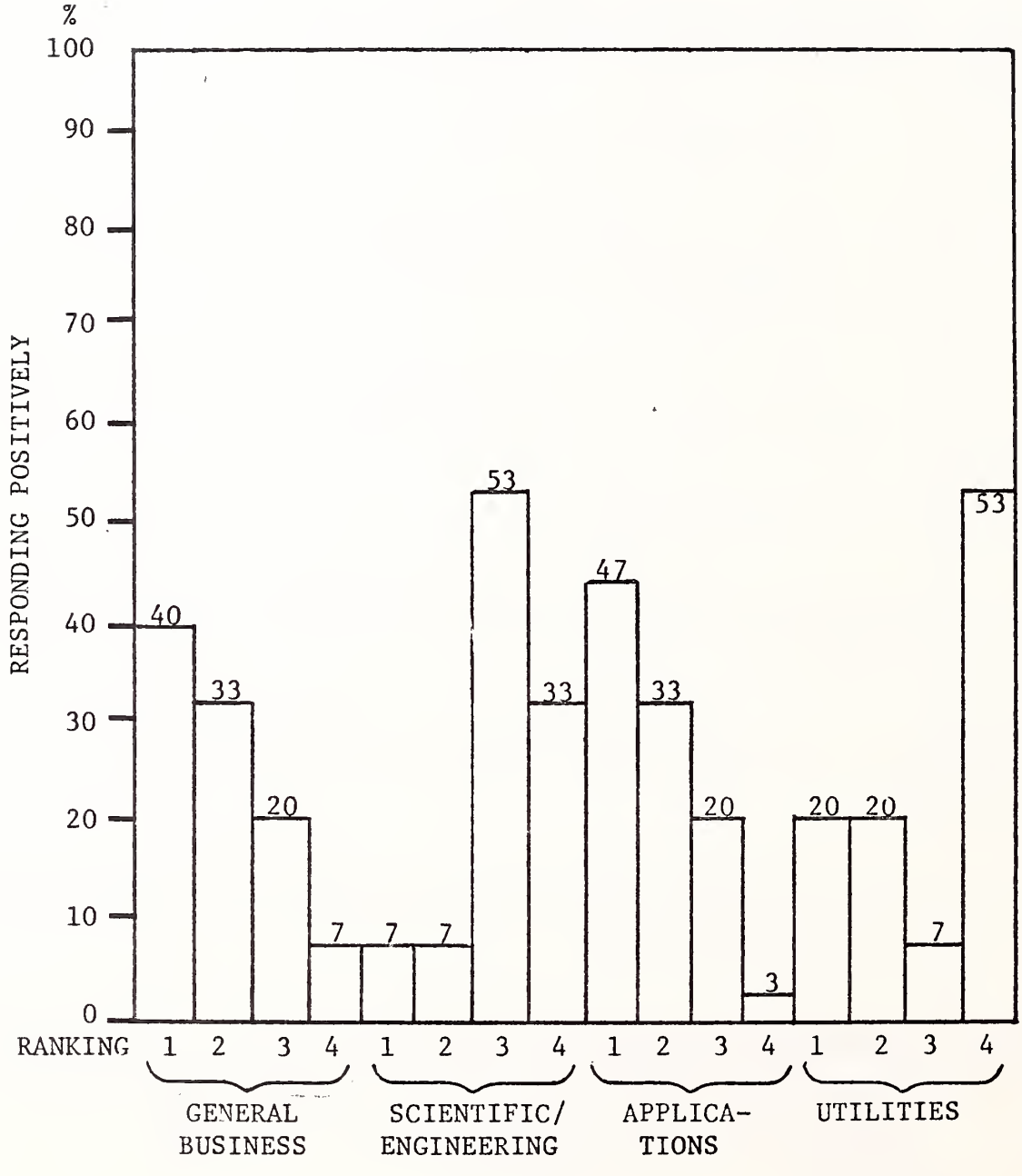
EXHIBIT VIII-14

RESPONDENTS' COMMENTS:

"IF IBM RE-ENTER, ON WHAT TYPE OF PROCESSING

WILL THEY CONCENTRATE?"

(1-HIGHEST RANKING)



- Computer services vendors tended to rank utilities either "1" or "2," whereas everyone else was inclined to rank them as "4." Probably, this is indicative of a better understanding of the value of general purpose data base systems and other applications.

- What will motivate IBM to enter? (See Exhibit VIII-15.)

  - The respondents were equally split on whether IBM would enter computer services to offer a value added alternative to hardware sales. As many rated it high as rated it low. Some interpreted it merely as a part of totally integrated services.

  - The desire to provide total integrated services was rated a prime motivating fcctor for IBM to re-enter the processing services business.

  - The support of network, distributed processing, and office automation hardware products were also rated quite high. In contrast, support of general purpose data processing equipment sales was not considered as important.

  - The response to this overall question is interpreted to mean that computer/communications networks make the offering of processing services attractive. Whereas, there is little incentive to offer processing services to standalone users.

2. THE COMPATIBILITY ISSUE

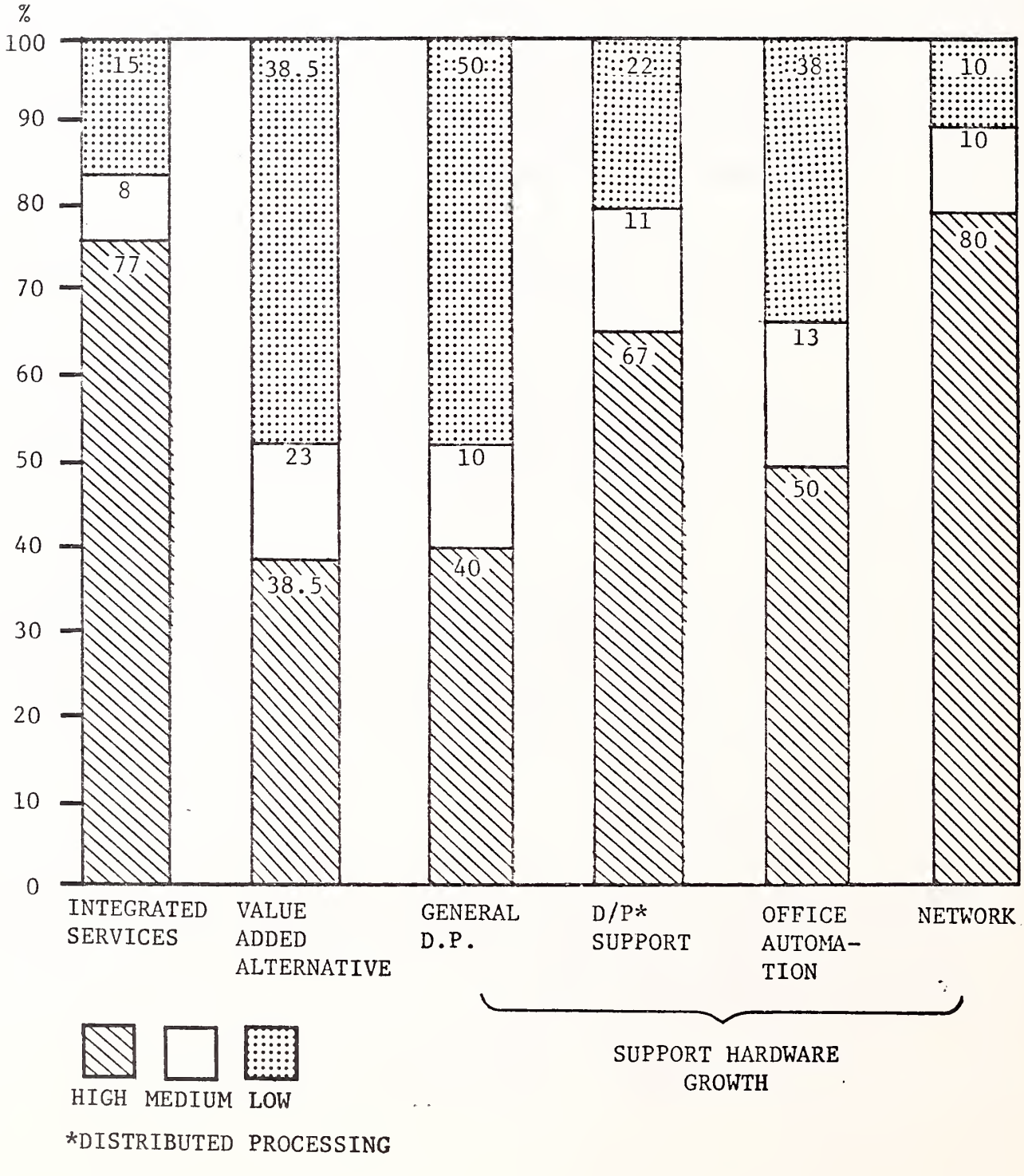
- The questions on compatability and IBM's hardware/firmware/software strategy did not elicit meaningful responses for statistical purposes, probably because of its complexity.

EXHIBIT VIII-15

RESPONDENTS' COMMENTS AS

WHAT WILL MOTIVATE IBM TO ENTER THE PROCESSING

SERVICES MARKET



3. COMMUNICATIONS

- Only one respondent said IBM would not build a network and stated that they would. Few had any opinion on the role of SBS.

- Very few respondents felt comfortable with the question of IBM's future processing services revenues.

  - Those who answered felt IBM would aim for at least a billion dollars.

  - Two believed IBM would achieve a half billion by 1982, and two thought a billion could be achieved by that time.

  - The general concensus was that IBM would have to see it as being a big business in order to be interested at all.

4. APPLICATIONS SPECIALIZATION

- The responses were practically identical to the questions on IBM developing applications packages and directing marketing towards a specific industry.

  - Twelve stated IBM would develop applications packages and only three said "no."

  - Thirteen said IBM would market on an industry basis and only two said "no."

- Applications packages were mentioned as follows:

-	Banking	5
-	Health	3
-	Utilities	3
-	Distribution	3
-	Manufacturing	3

- Insurance 2
- Statistical Analysis and Modeling 2

- The following received mention:

  . Aerospace
  . Financial Planning
  . Production Control & Scheduling
  . Airlines Reservations
  . Data Base
  . Information Retrieval for Management
  . Electronic Mail
  . Legal Services
  . Petroleum

5. IBM's EFFECT ON THE MARKET

- No one responded in a meaningful fashion to how much the market would grow with if IBM provided remote computing services.

- The question concerning IBM's RCS market share also provided little in the way of meaningful results.

  - The average response indicated IBM would have 21.6% by 1982, but the range was from 5% to 50%.

  - The average response for 1987 was 39% with a range from 15-70%.

- One person stated IBM would price competitively and the rest said "higher;" no one suggested IBM would price lower. The reasons for this pricing strategy were as follows:

- Can "afford to" or "get away with it." 4

- Profit objectives. 2

- IBM will have exclusive and can charge a premium. 1

- Regardless of price, others will go under. 1

- They will have to be competitive on a transaction basis. 1

- Forteen respondents stated IBM would price on a transaction basis and two stated by application.

- What will be the market acceptance of possible new services IBM may offer? (See Exhibit VIII-16.)

  - An intra-company processing network was rated extremely high with eleven respondents rating it high, one medium, and none rating it low. (Things look bright for OPD.)

  - Host Services for Distributed Processing and Total Services also generated a positive reaction.

  - Other proposal services generated a mixed response with nearly as many negative reactions as positive.

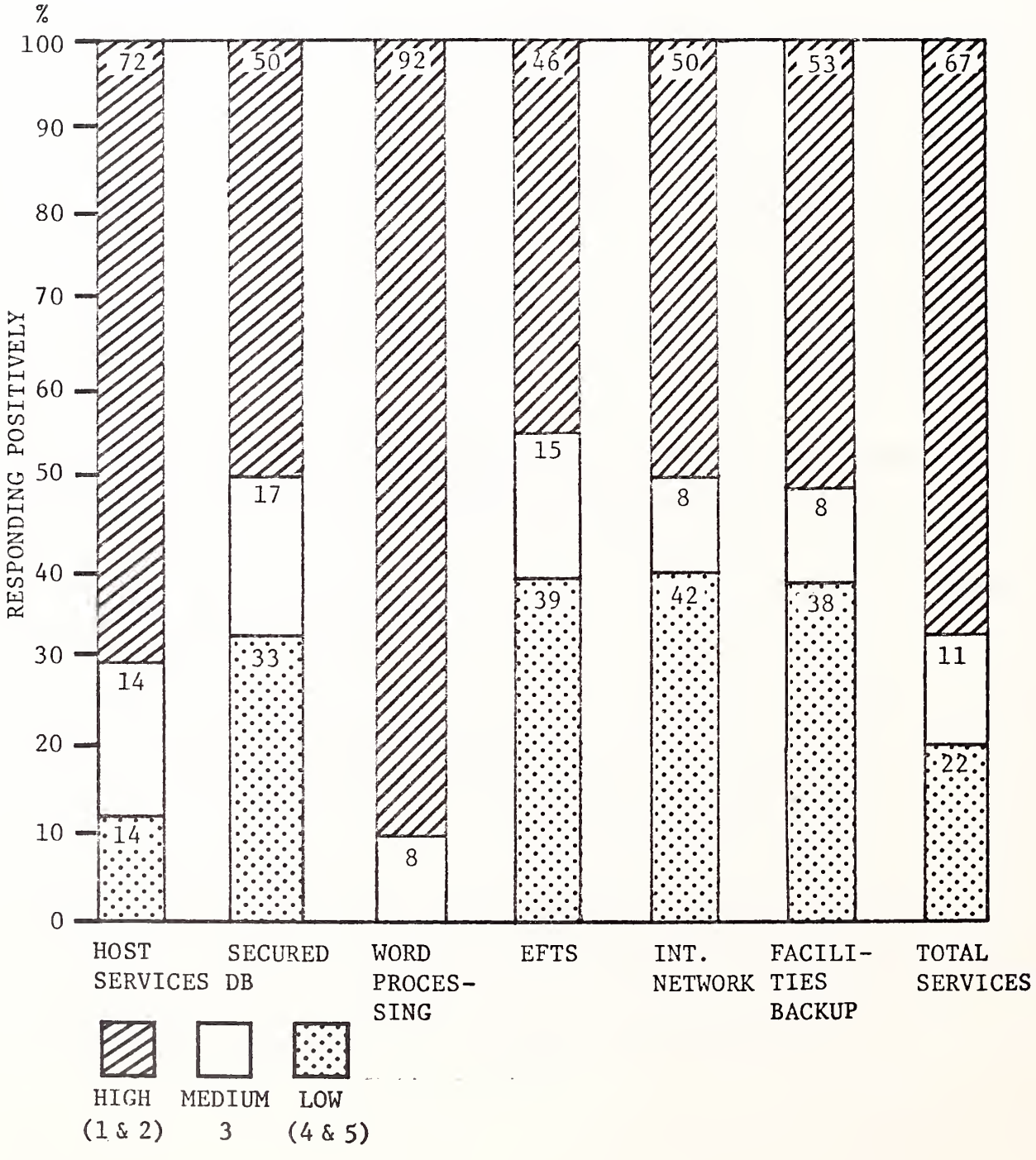
  - Once again, the integration and support of network services for distributed processing seems to be the key.

    . "Host services" is support for GSD distributed processing effort.

EXHIBIT VIII-16

ANTICIPATED ACCEPTANCE OF NEW SERVICES

BY RESPONDENTS



- "Word processing" is in support of OPD intra-company communications.

- "Total service" is permitting DPD to tie everything together.

- Interviewees were asked about market acceptance of IBM's computer offerings (either services or distributed processing) by market segment. (See Exhibits VIII-17 and VIII-18.)

  - In all market segments except consumer services and office automation, acceptance of distributed processing was more positive than computer services!

  - Office automation was extremely favorable under both circumstances - only one respondent was negative.

  - The reaction to IBM entering the consumer market on a distributed processing basis was negative because of marketing orientation. However, the 50% positive response for computer services implied a network reaching into homes which would represent a market of sufficient size to attract IBM.

  - Banking was considered to be an extremely attractive market area for IBM either through distributed processing (100%) or computer services (82%). This reflects accurately the requirements in the banking marketplace for both offerings.

  - The response to process control was understandably negative (100%) under computer services (most respondents feeling it was a natural for distributed processing). However, the negative reaction to IBM's computer offering under distributed processing (55%) was based on past failures in the process control market segment.

EXHIBIT VIII-17

ACCEPTANCE OF IBM'S COMPUTER SERVICES

BY MARKET SEGMENT

AS PERCEIVED BY

RESPONDENTS

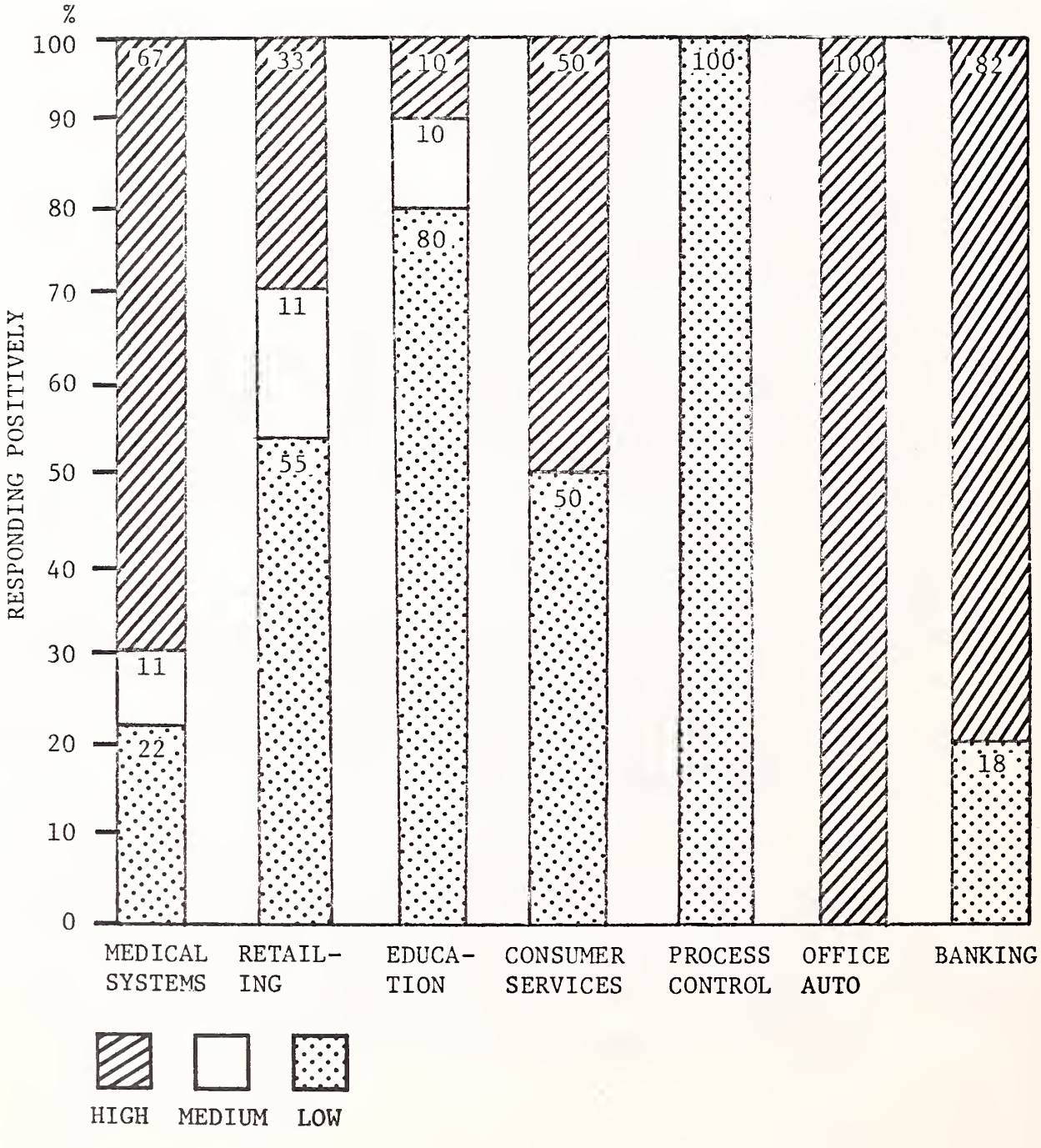
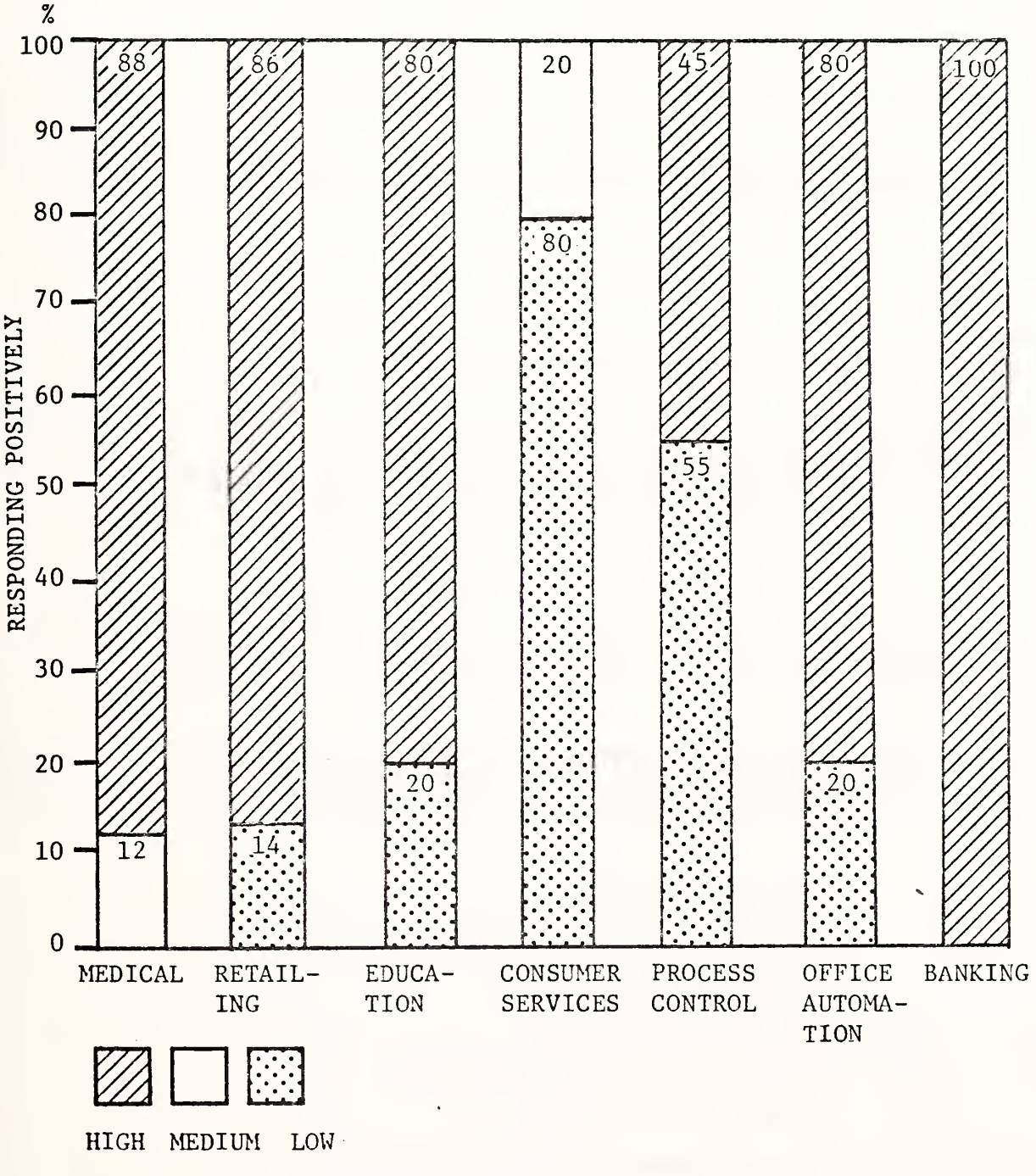


EXHIBIT VIII-18

ACCEPTANCE OF DISTRIBUTED PROCESSING

BY MARKET SEGMENT AS

PERCEIVED BY RESPONDENTS



- Computer services in support of education seems to generate a negative reaction (80%) for the entire concept. This is unquestionably based on past experience in a merket which has always had great potential and little penetration. The positive reaction (80%) to distributed processing indicates the technology is now available to pursue the market.

- IBM has had difficulty penetrating the retail market but the positive response to the distributed processing solution (86%) indicates the interviewees feel it remains a promising area.

- The medical market is favorable for both computer services (67%) and distributed processing (88%) once again reflecting the need for both offerings.

6. THE EFFECT UPON HARDWARE AND SERVICES VENDORS

- Question 2.d. was a general discussion of distributed processing which supplied a great deal of information which cannot be neatly categorized. It did provide answers (or at least opinions) on many important questions and was used extensively in preparing the scenarios.

- An additional set of questions was asked of EDP hardware and services vendors concerning their reactions to IBM's strategy.

  - While it was conceded that IBM would have an impact on certain markets (primarily RCS), there was generally a very positive attitude:

    - "Not much impact."
    - "No impact on current business."
    - "Would continue to grow."
    - "We could also benefit."
    - "Would lend stability to pricing."
    - "Would expand market."
    - "Should not cause deviation from plan."

- The question concerning the effect of IBM's entry on business planning was answered as follows:

  - "See what happens."
  - "Decreased emphasis on external sales (BCS) because of internal problems."
  - "Continue to evaluate threat and strangthen services."
  - "Will have time to react - IBM won't appear overnight."
  - "Considered in establishing plan - decided to continue."
  - "Not doing any planning - should."
  - "Only in the sense of evaluating possibility of our own entry."
  - "If I were a competitor I would develop quality industry oriented packages . . . . become #1 in selected market."
  - "Enter same market and come in under their price."

- When asked what competitors might do, the answers were as follows:

  - "May make them use other equipment." (An interesting observation concerning compatibility.)
  - "Strong will service: ADP, Tymshare, CDC . . . . spin-offs may be frightened out of business.
  - "Larger companies are realistic, smaller companies are scared."
  - "Won't be intimidated."
  - "Shake out of weak ones and IBM doesn't want that."

IX CHECKPOINTS TO 1982 AND BEYOND

IX CHECKPOINTS TO 1982 AND BEYOND

A. 1982 - A CRITICAL YEAR

- While the probable IBM strategies in distributed processing, computer services and communications will not have serious impact on the growth of the computer services industry prior to 1982, the stage will have been set to maintain IBM growth through the end of that decade.

- IBM will continue to adopt a flexible position and there will be many indications between now and 1982 to support or refute INPUT's predictions and to give warning of possible change in direction. Among the factors which should be followed closely are:

  - Most important is IBM's growth in revenue and its organizational distribution. If IBM has revenue problems they will react in some manner. Our predictions are based on their success in the strategies we outlined. Deviations should be analyzed.

  - Monitor the critical technological and competitive pressures on DPD's product line.

    . Specifically, the success of the 30XX and any additional price/performance adjustments to the current 370 line are critical.

  - Announcement of the new product line should occur around 1980-1981 - earlier announcement could indicate problems.

  - The containment of PCMs is also critical to IBM's strategy - even if IBM meets growth objectives IBM will fight any significant threat to account control. PCM's success or failure may be easier to monitor than IBM's.

- Watch for developments in IBM's H/F/S strategy - it is key in the SNA architecture and IBM's success in distributed processing. SNA should be reasonably "firm" by 1982.

- Sales of firmware/software should increase during this period and customers should move towards the IBM solution (IMS/MVT, etc.).

- If they can't motivate enough customers in this direction (expecially the middle of their product line), there will be temptation to provide such services for those who cannot afford to implement them internally.

- Developments in the area of security and encryption are also a key issue. If IBM maintains tight control of the really secure systems - it may present service companies with a marketing problem as well as a technical problem.

- The success of GBG offerings is critical in meeting overall IBM corporate revenue objectives. The success of GBG hinges on:

  - GSD being successful with Series/1 and strengthening its product line (hardware/firmware/software). Applications support, product alignment, and interfaces with SNA should be announced during the 1978-1979 time frame.

  - OPD should start to acquire new technology (minis, micros, and storage devices) before 1980.

- . The marketing of PABX should also begin by 1980, and foreshadow the announcement of other communications products. A Communications Division may be announced by 1982.

- IBM's use of SBS and the direction it gives its customers should also provide some indication of its intentions by 1982.

  - . If it does not remain arm's length, the implications are obvious - IBM will challenge the U.S. Government.

  - . IBM's customers' use of SBS will provide a clue to future development. The possibility of back-up services for processing modes should surface in the early 1980s.

- Other than watching IBM, the current legal proceedings are of significance. However, our scenarios do not forecast serious legal problems for IBM. Even if it is necessary to split up, IBM must continue to pursue their market areas described.

- Therefore, most rulings which may occur between now and 1982 will not cause IBM to modify its strategy.

- However, if it is instructed to break up, it may actually be a convenient time to set up a separate computer services company.

B. BEYOND 1982

- Based on our scenario, IBM will be prepared to actively pursue major new markets through the rest of the 1980s.

  - Distributed data base systems for all major industries (revenue growth at node locations) will be available. This will produce the full potential of the revenue projections detailed in Exhibit IV-9.

- Office automation will be just beginning with a potential market which has been predicted to exceed that of the total data processing industry to date.

- Advanced communications systems will have the prospect of re-wiring every business establishment with new equipment at significant cost savings to the customer and profit to IBM.

- These markets should be of sufficient size to satisfy even IBM's need for increased revenues.

- Some of the things which will happen by 1987 are as follows:

  - Dramatic increase in billing for availability and usage of hardware/firmware/software.

  - Selling to entire industry segments.

  - Providing inter-industry/government solutions to facilitate the flow of information among various organizations.

  - Improved information flow between consumers and industry/government.

  - The elimination of most paper from business offices.

  - The substitution of communications for business travel.

  - Substitution of electronic communications for significant portions of transaction mail.

- During this period of growth, IBM will be preparing itself to provide consumer services in the 1990s.

- IBM will probably split itself up during this period even if it is only for purposes of management. The possibility of five companies can be envisioned:

  1) Large Systems (including software development and integration).

  2) Small Systems and Terminals.

  3) Communications Systems.

  4) Office Products.

  5) Information Services.

- All of these companies would have revenues in excess of $10 billion (meeting IBM's growth objectives for 1987) and it is not difficult to imagine any of them growing to the $20 billion level.

APPENDIX I: INTERVIEWS CONDUCTED

I. GENERAL INTERVIEWS

	TYPE	ON SITE	PHONE
V. Bartelleti, President Computer Usage Corporation (Former IBM: District Manager, & Director of Customer Executive Training)	Vendor	X	
R. Platt, V. P. Marketing Boeing Computer Services (Former IBM: DPD Marketing; President, Information Records Divisions; Member, Management Review Committee)	Vendor		X
T. O'Rourke, President Tymshare	Vendor	X	
Confidential CDC	Vendor		
B. Coleman, President Boole & Babbage (President, Software Industry Association; Former IBM DPD Marketing)	Vendor	X	
P. D. Walker, Vice President Humana Corporation (Former IBM Management - MIS Development, Orginiator of Major Account Expansion Program)	Becoming Vendor		X

	TYPE	ON SITE	PHONE
G. Lucas, V. P. Data Crown	Vendor Candian		X
J. C. Paradi, President Data Line Systems	Vendor Canadian		X X
R. Gunther, Manager Product Planning Amdahl	Vendor	X	
W. Grabian 4 Phase	Vendor	X	
E. de Paschalais, V. P. Mervyn's (Retailing) (Member, American Management Association Systems Science Council - Shared by W. Bradshaw, Director of MIS, IBM)	IBM Know-ledge	X	
U. Weil, Financial Analyst Morgan Stanley & Co., Inc. (Former IBM Market Research & Competitive Analysis)	IBM Know-ledge	X	
P. Labe, V. P. Smith Barney, Harris, Upham	IBM Know-ledge	X	
A. G. W. Biddle, President Communications & Computer Industry Association (CCIA)	IBM Know-ledge	X	
Dr. C. Hurd, Consultant (Former IBM Management - Early Computer "Pioneer", Founder of Computer Usage)	IBM Know-ledge	X	
Man "X" (Planning GBG) MAN "Y" (DPD, MAEP Manager) IBM (Recorded as Composite Interview)			X

II. OTHER GENERAL INTERVIEWS

	ON SITE	PHONE
(Questionnaires Not Completed) P. McCloskey, President Electronic Industry Association (EIA)	X	

APPENDIX I: INTERVIEWS CONDUCTED

	ON SITE	PHONE
B. Moyer House Communications Subcommittee		X
Several Confidential FCC		X

III. USER INTERVIEWS

	ON SITE	PHONE
F. Holmes, Manager Data Processing Del Monte Corporation	X	
J. Weinman, Manager Computer Operations Northern States Power Company	X	
J. Giannatti, Associate Director University Computer Center City University of New York (CUNY)	X X	
R. Grossman, Executive Assistant New York Life Insurance Company	X	
R. Kramer, Manager US Group DP Levi Strauss & Company	X	
P. Rossenow, Vice President and Manager Crocker National Bank	X	
G. Zeigenfuss, Manager Information Processing Fairchild	X	
J. Sansome, Vice President Consolidated Edison	X	
T. Dixon, Assistant Head Computer Application Division American Electric Power	X	
J. Rossin, Time-sharing Consultant Manufacturers Hanover Trust	X	
A. Cesarini, Planning Coordinator John Hancock	X	

	On Site	Phone
J. Steinberg, Associate Director Massachusetts Institute of Technology	X	
R. Burrell, Manager Administrative Services Northwest Computer Services Inc.	X	
S. Hasin, Director of Computer Technology North American Rockwell	X	
C. Cortright Hughes Tool	X	
M. Ford, Manager Computer Systems Division Standard Oil Company of California	X	
M. Wheeler, Manager Information Processing Services Varian	X	
J. Johnson, Director Information Services Formost-McKesson Inc.	X	
E. de Paschalis, Vice President Mervyns	X	
E. Sellinger, Vice President Bank of America	X	

APPENDIX 2: DEFINITIONS

APPENDIX 2: DEFINITIONS

- COMPUTER SERVICES

These are services provided by vendors which perform data processing functions using vendor computers, or assist users to perform such functions on their own computers.

The following are definitions of the modes of service used in this report:

- REMOTE COMPUTING SERVICES (RCS)

Provision of data processing to a user by means of terminals at the user's site/s connected by a data communications network to the vendor's central computer. The three sub-modes of RCS are:

1. INTERACTIVE (timesharing) is characterized by interaction of the user with the system, primarily for problem solving timesharing, but also for data entry and transaction processing; the user is "on-line" to the program/files.

2. REMOTE BATCH is where the user hands over control of a job to the vendor's computer which schedules job execution according to priorities and resource requirements.

3. DATA BASE is characterized by the retrieval of information from a vendor-maintained data base. This may be owned by the vendor or a third party.

- BATCH SERVICES

This includes data processing performed at vendors' sites of user programs and/or data which are physically transported (as opposed to electronically by telecommunications media) to and/or from those sites. Data entry and data output services, such as keypunching and COM processing, are also included. Batch services include those expenditures by users which take their data to a vendor site which has a terminal connected to a remote computer used for the actual processing.

- FACILITIES MANAGEMENT (FM)

(Also referred to as "Resource Management" or "Systems Management"). The management of all or part of a user's data processing functions under a long-term contract (not less than one year). To qualify as FM, the contractor must directly plan and control as well as operate the facility provided to the user on-site, through communications lines, or in mixed mode. Simply providing resources, even though under a long-term contract and/or for all of a users' processing needs, does not necessarily qualify as FM.

- PROFESSIONAL SERVICES

Management consulting related to EDP, systems consulting, systems design and programming, and other professional services are included in this category. Services can be provided on a basis of: "Time and Materials," whereby the user pays for the time used of an individual on a daily or other fixed rate, or "Fixed Price," where the user pays a fixed fee for a specific task or series of tasks.

- SOFTWARE PRODUCTS

This category is for users' purchases of systems and applications packages for use on in-house computer systems. The figures quoted include lease and purchase expenditures, as well as fees for work performed by the vendor to implement and maintain the package at the users' sites. Fees for work performed by organizations other than the package vendor are counted in professional services. The two sub-categories are:

1. SYSTEMS PACKAGES are operating systems, utilities, and language routines that enable the computer/communications system to perform basic functions. This software is provided by the mainframe manufacturers with their hardware; other vendors provide improved versions of this and special-purpose routines. This classification includes compilers, data base management software, communications packages, simulators, performance measurement software, diagnostic software, and sorts.

2. APPLICATIONS PACKAGES are software which perform processing to serve user functions. They consist of general purpose packages, such as for accounting and inventory control, and special purpose packages, such as personal trust, airline scheduling, and demand deposit accounting.

- PROCESSING SERVICES

Processing services encompass FM, RCS, and batch services: they are categorized by type of service, as distinguished from mode of service, bought by users as follows:

- GENERAL BUSINESS services are processing services for applications which are common to users across industry categories. Software is provided by the vendor; this can be a complete package, such as a payroll package, or an application "tool," such as a budgeting model, where a user provides much of the customizing of the finished product it uses. General business processing is often repetitive and transaction oriented.

- SCIENTIFIC AND ENGINEERING services are the processing of scientific and engineering problems for users across industries. The problems usually involve the solution of mathematical equations. Processing is generally problem solving and is nonrepetitive, except in the sense that the same packages or "tools" are used to address different, but similar, problems.

- INDUSTRY SPECIALTY services provide processing for particular functions or problems unique to an industry or industry group. The software is provided by the vendor either as a complete package or as an application "tool" which the user employs to produce its unique solution. Specialty applications can be either business or scientific in orientation; data base services where the vendor supplies the data base and controls access to it (although it may be owned by a third party) are also included under this category. Examples of industry specialty applications are: seismic data processing, numerically-controlled machine tool software development, and demand deposit accounting.

- UTILITY services are those where the vendor provides access to a computer and/or communications network with basic software that enables any user to develop its own problem solution or processing system. These basic tools include terminal handling software, sorts, language compilers, data base management systems, information retrieval software, scientific library routines, and other systems software.

• DATA PROCESSING DIVISION (DPD)

- IBM's division responsible for the design, manufacturing and marketing of IBM's medium and large size data processing systems.

• GENERAL SYSTEMS DIVISION (GSD)

- IBM's division responsible for the design, manufacturing, and marketing of IBM's small business computer systems and the Series/1.

• OFFICE PRODUCTS DIVISION (OPD)

- IBM's division responsible for the design, manufacturing, and marketing of office products including: typewriters, dictating equipment, word processing systems, and office copiers.

- GENERAL BUSINESS GROUP (GBG)

  - IBM's management organization for GSD and OPD.

APPENDIX 3: QUESTIONNAIRES

GE-IBM:

CAT. NO. | G | E | I | | | |

USER QUESTIONNAIRE

1. Review completed interview file.

2. What is the growth of your corporate EDP budget from: (See: "EDP Plans and Budgets for 1977")

   (a) 1975 - 1976 _____ %

   (b) 1976 - 1977 _____ %

   (c) 1976 - 1980 _____ %

3. What level of centralization of EDP control do you have? (See: EDP Plans)

   (a) _____ Completely centralized

   (b) _____ Partially centralized

   (c) _____ Decentralized

4. What are the types of major computers in your company? (See: EDP Plans)

QUANTITY	MODEL	MANUFACTURER

5. What percentage of your total EDP budget is for outside processing services?

   (a) 1977 (Budget): _____ %

   (b) 1982 (ESTIMATED): _____ % (Assuming availability of desired services)

6. List outside computer services being used and degree of satisfaction.

SERVICE USED	SATISFACTION LEVEL		
	H	M	L

7. a) Are there any services that you would want and are not being offered?

   b) Describe

   c) What are the requirements for servicing that market?

(1) Special Software

(2) Special Hardware

(3) Special Communications

8. (a) Do you want IBM to re-enter the processing services, (RCS, Batch, Facilities Management) market in the U.S.? Why?

_____ Yes _____ No

(b) If they enter, do you think IBM will offer the services required/desired by you? (See question #7)

(c) If IBM re-enters the services market, would you give some of your business to them, rather than to any other vendor?

_____ Yes _____ No

(d) Why?

(e) Rank your reasons for the future consideration of IBM:

(1) _____ Internal planning easier with hardware and services from same vendor

(2) _____ Improved security

(3) _____ Centralized control

(4) _____ Office related (word processing, video conferencing, etc.)

(5) _____ Other (describe)

9. In the processing services market, what type of applications (industry oriented) do you think that IBM would develop and market more effectively than other present vendors?

10. Rate what you believe the probability of IBM supplying the following:

(H, M, L)

(a) Mode of Service:

(1) RCS _____

(2) Facilities Management _____

(3) Batch Services _____

(b) Type of Service:

(1) General Business _____

(2) Scientific & Engineering _____

(3) Applications Specialty _____

(4) Utility _____

(5) Text/Graphics _____

(c) Other Services: (e.g., Distributed Processing)

11. In addition to traditional data processing services, it is possible new services (or packaging of services) will be made available. Indicate how you believe these new services will be accepted in the market place.

	Acceptance in the Market (1=Excellent; 5=Poor)	Respondent's Ranking (as importance to him)
a) Host Services for Distributed Processing		
b) Secured Data Base (including data capture & polling		
c) Word Processing Communications Network (Intra-Company)		
d) Electronic Switching (EFTS & Inter-organizational reporting)		
e) International Network		
f) Major Facilities Backup (Data & Processing)		
g) Total Services		

12. Rate how you think each of the following market segments will find IBM's computer services offerings: (1 = Top interest; 5 = No interest at all)

	Rating
a) Medical Systems	
b) Retailing	
c) Education	
d) Consumer Services (Any commercial assistance)	
e) Process Control (Factory, Traffic, Environmental, etc.)	
f) Office Automation	
g) Banking	
h) Other	

13. Would IBM's creating a network in conjunction with SBS increase their attraction as a services vendor, and why?

14. (a) About how much are you purchasing in software products or professional services from IBM?

(b) What % change in your software products or professional services buying would you expect, if you started purchasing processing services from IBM?

15. (a) Describe what type of data base(s) you are developing?

(b) What % of storage will they consume?

(c) Which ones would you permit going outside your company?

16. How much more would you pay IBM than your present vendor to do the equivalent value of processing services?

_____ a) Ø _____ b) up to 10% _____ c) 10-15%

_____ d) 15-20% _____ e) > 20%

17. Rate the following factors as to their degree of importance in selecting a processing services vendor (1=Critical; 5=Unimportant)

	Rating	Ranking of "1"s
(a) Price of service		
(b) Reliability		
(c) Image of vendor		
(d) Vendor markets hardware as well as services		
(e) Portability of software		
(f) Maintenance capability		
(g) Compatability w/in-house hardware		
(h) Data base management systems		
(i) Other		
(j) Force ranking a ⟶ h of all "1"s marked		

18. What relationship would you prefer when purchasing services from IBM, and why?

(a) Purchase all computing services from an IBM subsidiary company created for the purpose of providing services.

(b) Purchasing hardware, software, services product offerings which are all extensions of IBM's present products, from the same sales force rather than from separate divisions or subsidiaries of IBM.

(c) Purchasing no computer services from IBM.

19. Who in your company (title) would make the decision on:

(a) Selecting hardware:

(b) Selecting outside processing services:

(c) Exchanging in-house computing for services:

(d) Exchanging services for in-house computing:

20. When planning for conversion, how important are the following:

(1 = Critical; 5 = Unimportant)

(a) Compatibility of Software _____

(b) Compatibility of Hardware _____

(c) Compatibility of Communications _____

(d) Portability _____

GENERAL QUESTIONNAIRE

(FOR SERVICES VENDOR, EDP HARDWARE VENDOR, OR INDUSTRY SPECIALIST)

PROJECT CODE: GEIBM

1. Which of the following services (mode) do you believe IBM has a 90% probability of entering, and by what year? (USA only)

   a) Remote Computing Services (circle): 1980 1982 1987 Never

   b) Facilities Management (circle): 1980 1982 1987 Never

   c) Batch Processing (circle): 1980 1982 1987 Never

2. If answer is "never", explain why:

   a) Not Remote Computing?

   b) Not Facilities Management?

   c) Not Batch Processing?

d) Also: Discuss the probabilities and possibilities of IBM implementing distributed processing (not creating a separate profit center) and analyze issues of compatability, SBS, organization, government control and marketing strategy.

3. If answer is positive:

a) Rank (1 to 4) the type of processing that you think will receive IBM concentration and comment why:

Type	Ranking	Comments
1) General Business		
2) Scientific Engineering		
3) Applications Specialty		
4) Utilities		

b) Comment as to reasons why you think IBM will enter the (high, medium, low) processing services business:

	Check: H	M	L
A. Support hardware growth: - General D.P. - Distributed Processing - Office Automation - Communication Network Services Capability			
B. Provide alternative value added capability to hardware sales. (Therefore, compete against own hardware sales)			
C. Offer totally integrated services			

c) What do you think will be IBM's plan for compatability? (Hardware, Software, Firmware)

d) Will IBM build a network? (Role of SBS?)

e) What will be the relationship of IBM's plan for entering the services business and its strategy for distributed processing?

f) In what year do you think that IBM will attain the following level of annual revenue in processing services (Ref: 1a, 1b, 1c)?

(1) $500M: (circle) 1980 1982 1987 Never

(2) $1000M: (circle) 1980 1982 1987 Never

4. a) Do you think IBM will develop special processing services application packages?

Yes No

b) If yes, name what you believe will be the 3 most important applications packages:

1)

2)

3)

c) Why?

5. a) Do you think IBM will develop a processing services marketing thrust toward a specific industry?

Yes No

b) If yes, name what you think will be the three (3) most important industry opportunities to be selected:

1)

2)

3)

c) Why?

6. INPUT thinks the total U.S. Processing Services market in 1976, without IBM, was $4.2 billion, increasing to $10.2 billion in 1982.

When IBM enters the market:

a) How much do you think the market will expand?

b) What do you think will be IBM processing services sales?

Mode of Processing Service	Size of U.S. Market			
	1982		IBM's % of total	
	w/o IBM	w/IBM	1982	1987
1. Remote Computing Services	$ 5.7B	$ B	%	%
2. Facilities Management	2.1			%
3. Batch Processing	2.4			%
TOTAL	$10.2	$ B	%	%

7. If IBM enters the processing services market, what pricing strategy do you think they will use?

(e.g.: for an existing service, they will charge _____ for equivalent price performance.) (Check)

a) _____ Higher

b) _____ Lower

c) _____ Equal

8. a) Why do you think that IBM will price as you described? (Ref: #6)

b) How will they price: transaction, application, raw computer time?

9. In addition to traditional data processing services, it is possible IBM will offer new services (or packaging of services) will be made available. Indicate how you believe these new services will be accepted in the market place.

	Acceptance in the Market (1=Excellent; 5=Poor)	Respondent's Ranking
a) Host Services for Distributed Processing		
b) Secured Data Base (including data capture via data lock box & polling		
c) Word Processing Communications Network (Intra-Company)		
d) Electronic Switching (EFTS & Inter-organizational reporting)		
e) International Network		
f) Major Facilities Backup (Data & Processing)		
g) Total Services		

10. Rate how you think each of the following market segments will find IBM's computer offerings: (1 = Top interest; 5 = No interest at all)

	a) Computer Services	b) Distributed Processing
	Rating	Rating
a) Medical Systems		
b) Retailing		
c) Education		
d) Consumer Services (Any commercial assistance)		
e) Process Control & Monitoring (Factory, Traffic, Environmental, etc.)		
f) Office Automation		
g) Banking		
h) Other		

11. What could happen that would make you change your mind concerning any IBM strategies? (catch all) (e.g.: Federal Government restriction, ATT entry into market, etc.)

NOTE: The following questions are for EDP hardware or services vendors

12. If IBM enters any one or all of the following markets, what will be the impact on your business:

a)

Mode of Service	Type of Service
RCS	General Business
FM	Scientific & Engineering
Software or Programming	Specialty Applications
Batch Processing	Utility
	Text/Graphics

b) Business being impacted (check where appropriate):

_____ RCS

_____ Batch Processing

_____ Hardware (EDP) Manufacturer

_____ Communication Carrier

_____ Van Vendor

_____ Software Vendor

_____ Other (describe)

c) What would be the effect on your business?

1) What part of your business

2) Dollar impact, and when?

13. What will you do in your business planning concerning the issue of IBM entering the services market:

a) 1977:

b) 1982:

c) 1987:

14. What do you think your competition will do?